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IRIS.

FOR CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. XI. 1888. No. 1.

1888.

BY GRANDMA GOWAN, MOUNT ROYAL VALE, MONTREAL.

SWEET BELLS, I hear thy solemn tone,
Which tells us the Old Year is gone!
Gone with its many hopes and fears!
Gone with the myriad fleeting years,
To the vast unknown!

Like an ice-bound brook, our unseen tears
Flow sadly over our wasted years.
And joys we've known, no more to know,
All feel like pictures made on snow,
In days by-gone

And now we welcome the new born king,
The transient monarch of restless wing;
Earth's guest is here, young Eighty-eight.
God bless the aerial potentate!

THE IRIS.

"THOU art the Iris, fair among the fairest,
Who, armed with golden rod
And winged with the celestial azure, bearest
The message of some God."

—*Longfellow.*

THE POET who sang so beautifully of the Flower-de-luce has passed away, but the subject of his song still remains, one of the most interesting of our summer flowers. It was the favorite flower of Louis VII., who, after he had distinguished himself in the Second Crusade, had it engraved upon the arms of his country, emblematic, no doubt, of his belief that he was on a Heaven-sent mission. Hence it was called *Fleur de Louis*, which has

been corrupted into Flower-de-luce. Still more ancient in origin is its name, Iris. By this appellation was known in classic myth the goddess of the rainbow, who was also the swift messenger of Juno, queen of the gods. Is it any wonder then that this,

"Beautiful lily, dwelling by still rivers,"

should have been designated by a name so closely associated with the superb hues of the bow of promise, on which the winged messenger was supposed to bear away the departing spirits.

In the Iris family botanists include the Crocus and the Gladiolus; and of the Iris proper there are very many distinct species, both wild and cultivated; and by a judicious selection they may be had in bloom during most of the spring and summer months, beginning with the Persian varieties in early spring, to be succeeded in July and August with the Japan Irises. In our colored plate we have pleasure in showing our readers a faithful representation of three varieties, viz., the *Common Blue Flag* on the left, *Canary Bird* to the right, and *Disraeli* at the top.

They may be grown either from divisions of the root, or from seed, and in the latter case may be expected to bloom in the second year. The seed should be sown in boxes in the house and kept quite moist for three or four weeks until it germinates.

We shall be pleased if these lines shall serve to inspire some of our Canadian ladies with a greater appreciation of this beautiful flower, and with somewhat of the spirit of the departed poet who closed his poem with these lines:

"O flower-de-luce, bloom on, and let the river
Linger to kiss thy feet!
O flower of song, bloom on, and make forever
The world more fair and sweet!"

LAYING OUT A LAWN.

Would it be beyond the sphere of the Horticulturist to give some directions for laying out a lawn on a piece of ground half an acre in extent? I would like to know (1) how to secure a good sod free from weeds, and (2) what ornamental trees and shrubs you would recommend.—JAS. MILLAR, *Bowmanville.*

AN EXCELLENT article on the formation of lawns appears in this volume, page 108, written by Mr. J. A. Bruce, of Hamilton. Mr. J. A. Morton, of Wingham, also gave a most practical address on this subject, at our summer meeting at Collingwood which will appear in the Report for 1887.

We would say by all means see to it that you have a fine large expanse of lawn in front of, and at the side of your house. Make this the first and most important consideration, for of all exterior decorations this is the most essential to the beauty of any home. Even a most elegant mansion built in the most ornate style of architecture, but surrounded by a rough and untidy lawn, has a forbidding aspect to a person of cultivated taste, while a very old-fashioned house, built in the plainest possible manner, but surrounded by a well-kept lawn, and properly arranged groups of trees, is so full of charms that it excites the admiration of every visitor.

"SPRINGHURST."

In the accompanying illustration, which represents the grounds of Frederick Goodridge, Esq, at Riverdale on the Hudson, it is evident that the beauty of the picture consists more in the surroundings than in the house itself, which is a plain, square building, with very little apparent architectural embellishment. The well-kept lawn, the natural curves of the carriage way, the appropriate trees and shrubs, all combine in giving "Springhurst" a character of grace and elegance, which would otherwise be entirely wanting.

In a large yard, like the one under consideration, the greater part of the preparatory work may be done with the plow and scraper, using also the spirit level for gauging it to a horizontal line, unless natural slopes have to be followed in parts. This should have been carefully performed in the fall, as well as the draining and fertilizing. Then in spring the finishing touches may be given with the spade and rake, carefully filling any depressions caused by the settling of the ground during the winter; and in April or May the seed should be sown.

Prof. Lazenby, of Ohio, recommends the following as a good mixture of

grasses for a lawn, being the proper amount to seed one-half acre, viz.:— Kentucky Blue Grass, 5 lbs; Red Top, 5 lbs.; Timothy, 3 lbs.; Perennial Rye Grass, 5 lbs.; Sweet Vernal Grass, 2 lbs.; White Clover, 2 lbs. He defends the use of the Timothy because it grows rapidly, and forms a good shade for the weaker grasses, to which it eventually gives place. After sowing the ground should be raked or rolled, both for the effectual covering of the seed, and for the obtaining of a perfectly level surface.

Of course for a small yard sodding might be recommended as the quickest way to secure a good lawn, in which case a sod of blue grass, or of some other thick-set grass should be selected; but that method is altogether too expensive to be thought of in a large yard.

The first mowing should be done before the grass is too high for the lawn-mower, say about the middle of June, and thereafter at least once a week, Thus if the seeding has been well and thoroughly done, you will be surprised to find how soon you will have a good sod. The frequent mowing will destroy all weeds that are annuals, but the perennials will require to be dealt with in a more summary manner. A plan for their destruction is to take an old pruning-knife and cut them off an inch or two below the surface of the ground; thus, with a little patient work they also may be mastered.

A plan of the grounds should be made out during the leisure of the winter season, and the trees and shrubs selected for grouping. In another number we will give a list of some of the more desirable varieties that are hardy enough to plant in Canada.

SOME PROMINENT CANADIAN HORTICULTURISTS.—I.

ALEXANDER McD. ALLAN,

PRESIDENT OF THE ONTARIO FRUIT GROWERS' ASSOCIATION.

IT is with pleasure that we begin a series of personal sketches of a few of our prominent Canadian fruit-growers and gardeners. Why should not the names and the deeds of those gentlemen who have originated new and improved varieties of fruits, or who have aided in the development of one of the most important industries of our country, be handed down through the pages of our journal for the grateful consideration of succeeding generations who shall profit by their labors? Why is not an engraving of the originator of a fruit or flower as full of interest to our readers as the flower or fruit he has originated? Confident of an affirmative answer, we proceed with the series.

There is at the present time no more prominent Canadian horticulturist than Mr. A. McD. Allan, of Goderich, Ontario. Now, for the second time, elected President of the Fruit-Growers' Association of Ontario, he presides with ability over its meetings, and constantly gives its members the benefit of his extensive practical knowledge concerning the cultivation, packing, and marketing of fruits. Many of our readers will re-

cognise his familiar face in the accompanying engraving, which we have had prepared especially for the pages of this journal.

Mr. McD. Allan was born on July 11th, 1844, at Brier Bank, in the township of North Easthope, County of Perth. The old homestead consisted of 230 acres. He experienced a great deal of the life and labor of a pioneer, having taken part in clearing off the forest and afterwards cultivating the lands. He took a hand in everything on the farm, until it came to a state of agricultural perfection almost. His early education was obtained in the district school, but his father (who had the reputation of being one of the finest classical scholars of his time), never tired of assisting on every possible occasion to push forward his "boys" in their studies; and to his constant labors he owes more than to any other person. From the local school he graduated into the old Stratford grammar school, where he spent several years, and then moved to Toronto where he prosecuted classical studies for three years.

A. McD. Allan.

In horticulture his fancies took a very early interest, and in *fruits* his interests were awakened at an earlier

date than they were in its culture. Theirs was the largest and best orchard and garden in the entire district, and when young Alec could give no other points of excellence to varieties, they were sure to be marked by the presence of sticks under the trees of those considered strictly *the best.*

At a recent meeting of our Association in Stratford the mayor (who had been his teacher in the grammar school), in speaking words of congratulation to the Association, took occasion to remark that "he did not wonder at Mr. McD. Allan reaching the highest office in the gift of the Association, as it was well known in Perth that he could tell all about the various fruits and their names in every garden and orchard within the scope of his travels in the county."

His writings on agriculture under various *nomes de plume*, such as "Agricola," "Hortus," "Sydney," "Fructus," etc., have appeared in all classes of papers, beginning with the old *Canadian Farmer.* For many years also he wrote for the *Country Gentleman* and the *American Agriculturist* under various *nomes de plume.* Later in life he edited the *Huron Signal.* But in all his experience in journalism he has never been known to write a line of a political bearing, having never had a taste or inclination that way. Many years ago his letters on the fruits and the fruit growing in Canada appeared in several British journals, which opened up favorable criticism on the possibilities of a trade opening in fruits between Britain and her forest colony.

He represented the counties of Huron, Bruce and Grey for about twelve years on the board of the F.G.A., also filled the vice chair for two years of that time.

His name is "well-known" all over this continent, as well as in Britain, by horticultural and sister associations.

He has had enormous correspondence for such societies all over this continent, as well as in foreign parts, regarding his methods of picking, packing, selecting and marketing fruits, as well as points on growing, etc.

It is fair to say that Canada is now reaping the benefit of his labors at the Colonial and Indian Exhibition in many ways where he had the position, under the Dominion Government, of Canadian fruit expert and commissioner. Experience in journalism also there gave him the opportunity and ability of giving to newspapers of many foreign countries, through their consuls (Norway, Sweden, Denmark, France, Germany, Russia), articles on Canadian pomology, etc, which has now resulted in an amount of foreign correspondence which is almost burdensome.

He has been intimately connected for many years with many of the leading American horticultural societies, and is a life member of the American Pomological Society. Every season he gets specimens of the new varieties of various fruits for examination, and is constantly appealed to in the States, as well as in Canada, for nomenclature.

In his own county (Huron) he has occupied the highest position in societies for advancement of horticulture and agriculture, and is now President of the North-Western Exhibition at Goderich. He was the originator of the "Dominion Draught Horse Stud Book" in the interest of stock breeders.

He has never sought municipal honors, in fact he has never turned his attention to anything specially but horticulture and agriculture, where all his tastes lie.

Every year he is invited to the leading as well as very many other exhibitions both in Canada and the States, as a *fruit expert.*

He receives many requests to attend farmers' institutes to address farmers on fruits, and fruit culture, etc., a good many of which he has complied with during the past few years.

We have thus given our readers an outline sketch of a life which we trust may long be spared to aid his fellows in the farther promotion of the interests of Canadian pomology.

POMOLOGICAL.

WINTER ST. LAWRENCE.

The Winter St. Lawrence Apple.

BY R. W. SHEPHERD, JR., MONTREAL.

SINCE the Fifth Report of the Society was issued in 1879, not much has been written about this very promising variety. We have now had some experience in growing this apple, and remarks upon the tree and fruit will not be uninteresting. Whether the Winter St. Lawrence be, as reported, an old English apple or a Canadian seedling (like Fall St. Lawrence) may never be finally decided. Trees of this variety are said to have been imported from England over fifty years ago, under the name of *Manx Codlin*. But the apple is certainly not a Manx Codlin. It is probable, I think, that its history is rather confused and may never be fully known

It certainly shows such very near kinship to one or two of the Newman seedlings that I am inclined to claim it as a Canadian apple. If it be an old English variety, it is strange that such a fine fruit is not universally known in England; but perhaps the improvement in coloring and size, wrought by our Canadian climate, prevents its being recognized as an English apple.

There is no doubt, however, about its being a most valuable acquisition to our fruit list. The tree has proved to be quite hardy. On gravelly soil I have some thirty trees, planted about eleven years ago, not one of which shows the slightest disease or decay of any kind, while the Fall St. Lawrence in the same orchard, on the contrary, is not thriving satisfactorily.

The Winter St. Lawrence is a stout tree, having strong shoots of vigorous upright growth which ripen their terminal buds perfectly. I like a tree with a stout trunk; it has an appearance of longevity, which varieties of a slim growth have not. The tree does not require much pruning, a great advantage in this severe climate, for, in many cases, disease is the effect of pruning

It bears its fruit, as a rule, on the fruit spurs of the larger branches every year, but more heavily the alternate year.

The fruit drops less from the tree than any other variety I know of; this is owing no doubt to its stout trunk and branches which prevents the tree from swaying about in high winds, and to its short thick stalk which has a firm hold of the branches. This dropping of the fruit is a weak point in a commercial apple, and discounts any advantages that there may be in the way of heavy crops. The fruit does not appear to be much affected by the Codlin moth; perhaps its thick skin may account for this. Nevertheless as compared with Fameuse this is particularly noticeable.

When pulled in the fall, the Winter St. Lawrence is not good for eating, but a fortnight or three weeks afterwards—about the middle or end of November, as a table apple, it compares favorably with, if it does not surpass, most varieties of its season. Carefully picked and packed, the fruit will keep, in a proper place, until the middle or end of January. It will not export in barrels satisfactorily. I have made the experiment on two separate occasions. If packed in barrels, the heads ought not to be pressed down too tight, for I have noticed when the fruit has been too closely packed together, the decay begins at the point of contact, and it seems as if this apple decayed faster than any other when bruised by pressing in barrels. I should recommend packing the fruit in the Cochrane apple-case, which avoids the squeezing which seems unavoidable when put in borrels.

I think the Winter St. Lawrence deserves to be ranked as one of the leading varieties to be recommended for cultivation in this Province, both on account of its hardiness of tree and excellence of fruit. The fine appearance of the fruit commands a ready sale at high prices, and its superior quality is recommendation that its growing popularity as an early Winter fruit will not soon die out.—*Report Montreal Horticultural Society.*

Rare and Peculiar Apples.

Albemarle Pippin.—This appears to be the Newtown Pippin of the east. It has succeeded admirably in the valleys of the mountainous regions of Virginia, and growers there have been receiving this season $4 per barrel for the fruit independent of the package. On the red lands this apple does not succeed, even in Virginia. This is a noble apple where the soil and climate is congenial, but it is quite fastidious and will not perfect its fruit over the country at large. It flourishes on the Hudson river and in some parts of Pennsylvania.

Sutton Beauty.—This is a valuable winter apple, with yellow skin striped with crimson. Quality very good. The tree is a strong grower. I think it originated in Massachusetts. I have often seen the fruit on exhibition, and it has always attracted attention.

The Stump Apple is not so well known as it deserves. It originated near Rochester, N. Y., where it has a reputation for great beauty, productiveness, and freedom from defects. I have seen trees loaded with the Stump apple, every one more beautiful than the wax specimens seen in show-cases, none knotty, wormy or mis-shapen. I sent a package of these to Charles Downing, and he was delighted with them. In appearance it is something like the Chenango strawberry, but more beautiful. The flesh is white and the quality good. It sprang up in an old partly decayed stump, where the seed had been dropped, and grew there until the stump disappeared, like a sapling in a barrel, hence its name.

Kentish Fill-Basket is the largest apple I have seen, and one of great beauty. I saw it first at the Rochester meeting of the American Pomological Society, where it overshadowed all others in size and beauty. It is an early winter variety, of English origin, sub-acid, excellent for cooking.

The Salome apple comes from Illinois, where it has been proved hardy, productive, and a long keeper. It is of

medium size, good form, and comes into bearing early. It sticks well to the branches during heavy winds and has been known to keep for twelve months.

FALLAWATER is a very large, beautiful fruit, reddish on yellow skin, quality good, origin Pennsylvania, Ohio and parts of the west. Rambo is an early winter apple, streaked with yellow and red, tender, juicy, rich sub-acid, excellent quality, succeeds nearly everywhere except in the severe localities of the west. SOPS OF WINE is a valuable late summer apple, medium size, dark red, fine white flesh, sub-acid and fine flavored. Fruit fair and showy. Rawles' Janet is hardy enough for the far west, mostly grown in Ohio. It blossoms late, hence escapes late frosts. Medium size, pale red, mild sub-acid, fine, crisp, juicy, a long keeper. Stark is a large striped apple, sub-acid, mild and good. A long keeper, origin Ohio.

If you are planting an apple orchard and are at a loss to know what varieties to select, settle on Duchess and Wealthy for two of the most reliable the country over, Duchess for fall, Wealthy for winter. *Green's Fruit Grower.*

The Apple Blight.

THERE is no remedy known for apple blight. It is a trouble due to the same cause as pear blight. The infection comes from the air, and enters the tree through the ends of the twigs and especially through the flowers. Usually only a few inches at the end of each twig dies; and it may be a month or more after the tree becomes infected before enough leaves have turned brown to attract attention. No way is known to prevent the entrance of the germs, and when once in, no way of getting rid of them but by amputation of the diseased limbs. Occasionally the branches will die down so far as to threaten the life of the tree, in which case they ought to be cut away: but often the disease comes to a standstill without the use of the knife, and the tree receives but a temporary and limited check to its growth.—*Dr. J. C. Arthur. Geneva, N. Y.*

Cutting Back.

THERE is no harm in taking a limb off out toward the end of the branch, away from the body of the tree. This is not pruning, it is cutting back. If we begin the young tree right and follow it up, they never need severe pruning.

Water sprouts from grafted apple trees may be trimmed off during any time in the year, but if done in the fall or early winter it will be best to paint over the wounds with linseed oil paint, if the wounds are large.

Ostheim Cherry.

THE Ostheim cherry is almost exactly like the English Morello and ripens between the Early Richmond and the English Morello. It is very valuable, hardy and prolific with Secretary Goodman, of the Missouri Horticultural Society, at Westport. The Early Richmond cherry seems to do better upon the common Morello stock than upon Mahaleb. But the objection to the latter is that it sprouts, and the trees are not desirable for this reason.—*Farm and Home.*

Wolf River Apple.

THE Wolf River apple, as exhibited in Boston, appears to be so near like Alexander, that specimens of one or the other cannot be picked out of a mixed lot.—*Orchard and Garden.*

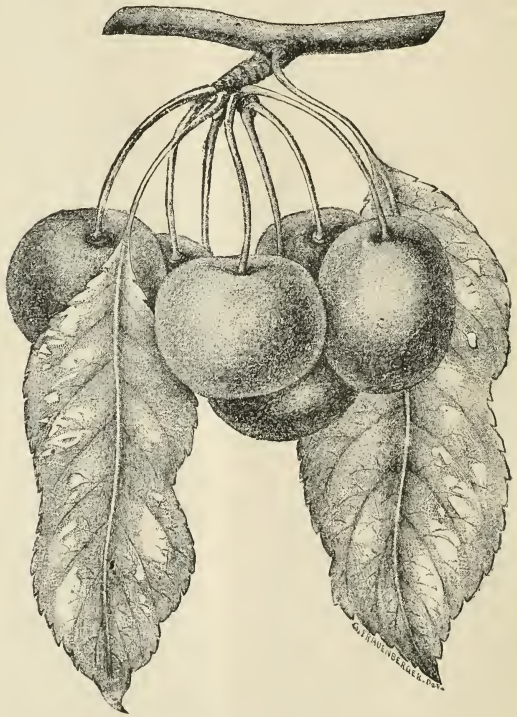
Keeping Apples.

LAST year I gathered a lot of dry maple leaves, put a few in the bottom of barrels, then a layer of apples, and then a layer of leaves, and so on till the barrels were full. I then covered them with leaves and they kept nicely. I

sold some in the spring for $2.50 per bbl, which I could get but $1 for in the fall. I sold some in May to a dealer and he came and helped pick them over. He said he never saw apples keep so well in his life. Some of the barrels didn't have a dozen specked apples. I shall try the same method this year. We had good, sound fruit until apples were ripe again the following July.—*Ex.*

To Grow Apples Successfully.

To grow apples successfully East or West, North or South, the following hints from a paper by N. F. Murray to the Missouri Horticultural Society will hold good: Select good and suitable varieties, plant none but sound trees and plant them carefully. Give them plenty of room so that the tree and the fruit will have sufficient air and sunshine. Prune, cultivate and feed the trees and fight the codlin moth. Visit the orchards of our most successful fruit raisers at the time of their harvest. Join the Horticultural societies and attend their meetings. Learn all you can and put it in practice. Labor diligently and wait patiently, and you will "get there."



THE WINDSOR CHERRY.

The Windsor Cherry.

We have several fine varieties of Biggareau cherries, as Rockport Biggareau, the prolific Napoleon Biggareau, and the magnificent Yellow Spanish, all of which may be classed as Early cherries. The best late Biggareau so far grown to any extent in Canada, is the Tradescants Black, or Elkhorn, a fine large cherry, and the tree a most abundant bearer. Its quality is, however, not the best. There is, therefore, a place for a good late variety of good quality such as the *Windsor*. This cherry was originated by Mr. James Dougall, of Windsor, Ont., whence its name. It somewhat resembles the Elkhorn, yet is quite distinct, and ripens three or four days later. The flesh is *firm* and of fine quality, and the tree is hardy and prolific. By favor of Messrs. Ellwanger & Barry, of Rochester, we are able to show our readers an engraving of this new and promising cherry.

VITICULTURAL.

When to Winter-Prune the Grape.

This may be done at any time after the leaves have dropped, and the buds are in a dormant state, without injury to the vine or materially affecting the growth of wood or fruit the following season. While a majority of experienced grape-growers think that no one particular time has any advantage over another, so far as the next season's crop is concerned, there is quite a diversity of opinion on this subject among a few of the knowing ones, who make it a rule to carry out their particular notions. Some prune in the fall, others in the winter, and others in the spring, and all with about the same results; which goes to prove, to my own satisfaction at least, that it is immaterial when it is done, so far as affecting the following season's growth of wood or fruit. There is an old adage, however, that reads thus: "Prune early for wood, and late for fruit." There are some who profess to believe in this, and only carry it out in part, as their desire for fruit is so strong they are very sure to prune late every time, and still they have plenty of wood. With my own experience for many years, with both early and late pruning side by side, I have not been able to see any difference in favor of either. I would therefore recommend pruning at any time that best suits convenience, while the vine is at rest, the weather pleasant and the shears sharp.—*Ex.*

Manuring the Grape.

The government committee in France, after several years' investigation of the manuring of the grape and of results of a series of experiments with potash manures, reports strongly against nitrogenous manures, including stable manure, as being "more hurtful than useful," which accords with common practice, also that feeble grape vines consume as much manure as vigorous vines.

Potash should enter into the composition of manure for grape vines, the elements in the soil being generally in bad condition for assimilation; potash carries forward in some way, with it the other fertilizing principles.

Potash from the root passes to the vine, to the leaves, then to the twigs, to arrive at last at the fruit, of which it favors the development. Its migration is comparable to those of the nitrogenized elements and phosphates.

The potash introduced through the root in the course of a season is not entirely consumed, since it is found after fructification, reserved in sufficient quantity, in the wood and in the twigs. —*Rural Messenger.*

Fertilization of the Grape.

As to the fertilization for the grape, experience of late years has taught us the fallacy of the old idea of *excessive and high feeding* which, while it induced growth was unquestionably at the expense of fruitfulness. A member of the Ohio State Horticultural Society, in a discussion on this subject at a meeting similar to ours, expressed the opinion "that soil which would produce 40 bushels of corn to the acre was rich enough for the grape." I quite concur in his opinion, except for a few weak-rooted varieties of delicate foliage, like the Delaware, which requires a much richer soil. I apply a very light top dressing of *well rotted* cow manure every year after the vines are covered in the fall; in the spring after the vines are uncovered and tied to the trellis, this is cultivated under and a light top dressing of wood ashes is spread over the ground, but from sad experience I must caution others to *use ashes very sparingly.*—*Report Montreal Horticultural Society.*

Moore's Diamond Grape.

Judge Miller, of Missouri, says, in *Popular Gardening*, that he has fruited Moore's Diamond Grape now for three years, and that he finds it equal to the Niagara, Pocklington, and Empire State, in every other respect, and is 40 per cent. better in quality than any one of them.

USE OF FRUITS AND FLOWERS.

Fruit as a Diet.

Dr. Hoskins has an article on this subject in the *Rural New Yorker*, in which he attributes a large proportion of the diseases of the human system to a long continued course of over-feeding. The habit of eating fast is sure to lead one to eat too much, for when one's dinner is swallowed in ten minutes, the hunger will not have abated before the stomach is as full as it will hold; whereas when a person eats slowly, the cessation of hunger will properly mark the time to stop.

The doctor proposes the free use of fruit and vegetables at every meal as a means of remedying the evil in the case of persons who have so habituated themselves to rapid eating that they find it next to impossible to eat slowly. Fruit contains so little nourishment in proportion to its bulk that a large amount of it may be eaten, and the system not become clogged. Fats, on the other hand, as fat meat, butter or gravy needs to be partaken of in limited quantity, or the organs become surcharged with these heat-producing elements. Thus by using a large proportion of fruits and vegetables with every meal, the evil of rapid eating may to a certain extent be obviated, and continuous good health be preserved.

There is no doubt that this hint is a timely one, and calculated to be of benefit, especially to those Canadian and American farmers and fruit-growers who have purchased farms with a small amount of capital, and feel so pressed by their ambitious undertaking of doing as much of their own work as possible, that they can barely spare the time needed to sit down to the usual three meals each day. It would be, however, a still more desirable end, if we could induce them to learn more patient habits, and to sit quietly enjoying pleasant conversation at the table for a longer time instead of the manner too often followed of jumping up and hurrying away as soon as the last mouthful of food is swallowed.

Keeping Cider Sweet.

What is the best way of keeping apple cider sweet? Ans. Make it from ripe, sound apples. It can be kept nearly sweet by filtering it through perfectly pure sand and at once barreling it tight; but this is practicable only in a large way and cool climate. When freshly made it may be put into large boilers and gradually brought to the boiling point and carefully skimmed, but it must not boil. Then put it into absolutely clean barrels, filling to within two inches of the bung, put in a tablespoonful of pure olive oil and bung tightly. It may also be canned or bottled and sealed up, but this must be done when the cider is boiling hot. There are lots of drugs that will keep cider, but they are all more or less injurious to health, and they impart a bad taste to the cider.—*Rural New Yorker.*

Apples for Animals.

An acquaintance of my boyhood, then past middle life, who had large orchards upon his farm, reached the conclusion that the production of cider and cider brandy was not conducive to the interests of the community, and fed hundreds of bushels of apples to his stock. He raised many fine horses, and it was said that in years of plenty, from grass to grass again, straw and apples were their only food. That class of wise men who always hang about livery stables and hotels to give advice to intending purchasers of horses never failed to caution them against his horses, however, assuring them that horses once fattened upon apples would never do well afterward. I do not know what the after effect may have been, but I know he was always able to get the top prices for any of his apple-fed stock, whether sheep, cattle or horses.

A few years ago one of our largest apple-growers had a large lot of culls left over of his market stock. He was offered ten cents a bushel for them delivered to an evaporating and cider making concern five or six miles away. Instead of selling them at that price, he bought hogs to eat them. I am at this time unable to recall the details of his method, but whatever other feed was given them was accurately weighed and measured, and the gross cost at market prices and all other expenses, except the labor of feeding the apples, were duly charged up against the hogs till they were killed and marketed, when it was found that the apples had netted him 35 cents a bushel. The one case of ill-result was where a large herd of cows were turned into an orchard of several hundred trees and permitted to gorge themselves without restraint. Like any other food, apples should be fed with much discretion, beginning with small rations and increasing them gradually.—*N. Y. Tribune.*

Flowers at Funerals.

Funeral designs are hardly so much in demand as less stiff and formal arrangements. Sometimes the casket is draped or garlanded with flowers, or a single exquisite design is laid against it. Great skill and taste is displayed in the arrangement of the garlands used in this work. Colored flowers are very largely used, except at the funerals of children, where white is preferred. All through the summer months, daisies have been much used for draping children's coffins.

We are told that it is becoming customary to decorate the room in which the coffin is laid previous to interment. It is certainly a very beautiful idea. Instead of merely draping the mirror, it is entirely covered with flowers; an æsthetic form of the old custom still followed in most parts of England, of keeping the mirrors covered so long as there is death in the house.—*Miss Taplin in Pop. Gardening.*

THE KITCHEN GARDEN.

The prevalent custom in town and country to crowd the vegetable garden with fruit trees and bushes ought not to be tolerated. The walk, rather than Raspberries, Peaches and sour Cherries, ought to be next the fence all around.

Every garden ought to have an Asparagus bed laid out and planted as soon as it is located. Then there should be English Peas, Black Wax and Early Valentine Bunch Beans, Jersey Wakefield and Flat Dutch Cabbage, Deacon Lettuce, Perfection and Acme Tomatoes, Egyptian and Eclipse Beets, Boston Market Celery, Carter Watermelon, Montreal Market Cantaloupe, Early Rose, Beauty of Hebron and Mammoth Pearl Irish Potatoes, and the Shaker Red Sweet Potatoes, these being the best of their several kinds. The old-fashioned Long Green Cucumber is the best of its kind for all purposes. The garden ought never to be found without Parsley, Mint, Thyme and Sage.—*W. T. Delaney before Kentucky Farmers' Institute.*

FLOWERS

THE CULTIVATION OF ROOTS FOR WINTER FLOWERING.

BY HERMANN SIMMERS, TORONTO.

Amongst the winter flowering bulbs, there are several varieties of roots which are specially worthy of the amateur's attention, and not probably known by him to be useful for flowering indoors. These roots are easier of culture than some varieties of bulbs, in that they are not so liable to decay in their first care; and also in that they may be forced several times with success. The old roots or clumps being larger than bulbs, retain more vitality for a second forcing. Still I do not advocate their being grown twice, as they have the same tendency as bulbs to diminish each year on account of the artificial growth they are subjected to. Therefore the amateur should bear in mind, that it would be better to plant new roots in order to obtain an amount of bloom equal to that he may have had in his first attempt; and to plant the old roots in the open air, the same as bulbs. The tender varieties in each case, I will make mention of.

Among the first varieties to which I would call the amateur's attention is the

SPIRÆA JAPONICA,

also called *Hotteia*, or *Astilbe Japonica*. Although this variety is well known to nurserymen, and it has been sold to parties for open air planting, many would scarcely credit the great amount of satisfaction it will give to any person wishing to grow it indoors. Just the same beautiful plant which it makes in the open air as equally beautiful can it be, grown indoors. *Spiræa Japonica* flowers are white, not fragrant, but continuous for several months; and the accompanying illustration gives a very explicit idea of the plant in bloom. When planting indoors, select as large a clump as possible; as a rule the Dutch grown clumps are the best, although those having a clump growing in the

SPIRÆA JAPONICA.

open air may take them up towards the end of October, and if the clump is extra large divide it into four pieces, when even the smallest of them will make a handsome pot plant. Each clump must have from four to six small shoots, and more is better where the clump is large. If we suppose the clump to be from four to six inches in diameter, plant such a one in a pot just twice its size, as they are vigorous growers, and will fill the pot with roots in the two months that they should remain in the dark.

In planting the clump in a pot, press the earth firmly around the root, just leaving the numerous little shoots over the surface of the earth. Then place the pot away in the dark, water freely whilst they are rooting, and by the end of two months they may be brought to the light, with the same caution given under the Hyacinth culture, not to expose the plant suddenly. They could be placed under a table, where a ray of light now and again may strike them; leave them there for a week, when they are ready to be exposed altogether. Nothing further is now necessary but to supply a liberal quantity of water and liquid manure until they are in bloom. As the Spiræa commences to flower about April, they continue sometimes in bloom up to the middle of June. Allow the clump then to rest for a few weeks, after which plant in the open air, care being taken to disturb the earth as little as possible. They may remain there until the end of October, at which time it can be started again for another winter's bloom; but as before said I would not recommend them to be planted the second time,

The other varieties suited for forcing are *Spiræa Palmata* and *Spiræa Japonica folia var.* These are not so easy of culture as the *S. Japonica*, but the amateur, if he wishes to experiment further, would do well to attempt any of these. A word here to the growers of bulbs. Do not bring your

BULBS

to the light too soon, they will flower stronger and better; apply some liquid manure or prepared plant food once every two weeks. It does not hurt the bulbs to have an extra supply of roots, therefore be in no hurry to bring the bulbs to the light. Change the water in your hyacinth glasses once every ten days, not immersing the bulb in water, thereby causing the bulb to rot, but just allow the face of the bulb to touch the water; leave them in the dark until the roots touch the bottom of the glass, when they are fully prepared to be brought to the light.

A GRAND Sub-tropical Exhibition is to take place in Jacksonville, Florida, beginning in January, 1888, and lasting until May. It is to be planned on a very large scale, and is designed to embrace a complete display, not only of the product resources of Florida, but also of the attractive exhibits that can be obtained from sub-tropical countries. The Secretary is Wm. F. Forbes, of Jacksonville.

ROSES FOR THE GARDEN.

BY F. MITCHELL, INNERKIP, ONT.

ALTHOUGH a fair measure of success may often attend the fall planting of roses, I would not advise it to be followed as a general practice. Winter is, in this climate, the most trying season on rose plants, and as they will not, at the best, make any growth at this season, it is unwise to incur the added risk of loss for no balancing advantage.

Do not plant budded plants if the variety can be procured on its own roots. I have not yet been able to discover any added vigor to weakly growing kinds when budded in other stocks. Such poor growers as Louis Van Houtti keep up the family failings no matter what stocks I may have them on. And in so much as hardiness is concerned there is nothing gained, as the roots are more protected, and naturally bear the winter frosts far better than the shoots which are above ground. The only legitimate excuse that nurserymen can have for sending out budded rose plants is that some varieties are very difficult to root from cuttings. The objections to budded plants are in the foreign or wild suckers which they frequently send up, and another and worse one is (as often purchased at least), the large, old, bare roots of the stock; so large and old that they never fully recover the shock of transplanting.

There is an age and size at which roses can be transplanted most successfully, the same as other plants, or vines, or trees. Although it is certainly a great mistake to plant out very small and tender rose plants, it is none the less so to plant very large and old ones. Plants which are too young and small are, I suppose, generally chosen because they can be procured at little cost; and the other mistake is often committed by a wish and expectation to have a display of roses almost immediately after planting. I find the fallacy is a very common one, that a display of roses can be had almost at once, if large enough plants are procured. I do not know why this is; no one plants extremely large currant or goose-berry bushes with the idea of receiving a full crop at once. Large and old rose plants may possibly make a weak imperfect display of bloom the first spring after planting, but in many cases it is followed by a stunted, diseased condition from which the plant never recovers. I have met with the best success with plants taken from four inch pots (or thereabouts), and which had not received a shift for perhaps six weeks or two months. Plants of this description should have the pots pretty well filled with roots, and be ready for more room. It is not necessary that such plants as these be planted so very early in the spring. Any time in May, or even early in June will do. If these are Hybrid Perpetuals they will generally give a few blooms to each plant in the later summer and fall, and be fine strong bushes at the coming of winter, and the following summer will make a grand display.

NOTES OF FOREIGN TRAVEL.

BY J. HOYES PANTON, B.A., GUELPH, ONT.

SIR:—In accordance with your desire, I am sending you a few lines which may be of interest to the readers of the HORTICULTURIST. Information which I gleaned from visits to the Botanic Gardens of Edinburgh, London and Liverpool, I shall refer to at some future day, if time permits, but will, in this short communication, confine my remarks to some things I ob-

served while on a scientific tour through the Isle of Man.

I had the good fortune, as a member of the British Association, to be one of seventy selected for a trip to this interesting island, famous for its numerous legends connected with its early history, and also for its wonderful equable climate.

As we made excursions each day to points of interest, an exceedingly good opportunity was afforded to observe the effect of the climate on the plants of the place. One of the first things to attract my attention was the presence of many

HEDGES OF PLANTS

which we can grow only under the most favorable conditions. Here you see the Fuchsia growing as a hedge-plant covered with flowers, and some of the shrubs attaining a large size—six to ten feet high with stems several inches in diameter. The Rhododendron, Laurel and Holly were also at several places used for hedges. Yet notwithstanding the presence of these plants, and the great size to which many had attained, the appearance of trees in many parts of the island indicated that winds were common that tried their vigor. Rows of trees were seen with tops as if they had been shorn; sometimes they had a slope just as one sees in hedges newly pruned, the slope being towards the sea. On enquiry I was told that this resulted from keen, cutting winds blowing from the sea. Many of the trees in such localities were considerably bent away from the shore. But few trees were large and vigorous looking like the trees of Canada. In many instances they reminded one of trees in the North-West, where the sweeping winds of the prairie develops in them a hardy scrubby look. This may seem inconsistent with what I say regarding the advanced condition we find plants there, growing outside, while in Canada they are rarely seen beyond the hot-house.

The *Horn Poppy* (Glaucium luteum), a unique plant (especially when the pods have reached maturity), grown in our gardens as a curiosity, grows there in profusion along the shore. The *Sea Pink* (Armeria maritima), a very pretty plant, both in foliage and flower, is exceedingly common, decorating many of the rocks along the shore. I also observed this plant on the Isle of Staffa.

Wild roses adorn many of the hedges, and several forms in the order compositae here and there, add to the beauty of these living fences. The *Blackberry* (Rubus villosa) is also very common on the hedges. I observed that in some parts much exposed to the sea, it tried the hardiness of the hawthorn. *Ivy* is very common and decorates the trees of many a wood, and gives to otherwise uninviting walls a charm. With a climate so favorable to some forms of plant life, one is surprised to find it is unsuited to ripen fruit. It has not the warm influence of a Canadian sun, though the average temperature is high; but it is comparatively even and without extremes. Grapes require to be grown inside, and tomatoes in pots, and poor at that. The apples bear no comparison to ours.

The gentleman, whose guest I was while on the island, had most beautiful grounds around his residence, and I think you will understand the effects of the climate, and its influence on plants much more readily if I give you a statement of the trees and shrubs seen there during my stay;—

Fuchsias	10	in.	diam.,	12	ft. high.
Rhododendrons	15	"	"	20	" "
Araucaria.....	24	"	"	18	" "
Laburnums	12	"	"	25	" "
Laurels.....	12	"	"	20	" "
Barberry	15	"	"	10	" "

Ivy in profusion covering walls, etc., and much of the house, and associated with it some attractive specimens of our Virginia Creeper. The *Yew* tree was also well represented, and a beautiful specimen of the Magnolia was in

bloom. When such shrubs as the above can be grown without any extra care, it is not a matter of surprise that my host had grounds where one could spend days, wandering along the serpentine paths, observing on every side varieties of shrub and flower calculated to please the eye and charm the mind, surrounded by an atmosphere filled with the perfume of innumerable summer flowers. Certainly there are great facilities for the cultivation of gardens in the vicinity of Douglas on the Isle of Man, and the people have not been careless in taking advantage of the opportunities nature has given them.

FORESTRY

Ornamental Birches.

Mr. Russell, in a paper before the Mass. Hort. Soc, recommended these trees as particularly desirable, whether for planting in masses for timber, or simply on open grounds. *The paper white birch* is one of the best for tree grouping, and has been fitly termed "The Lady of the Forest." In a thicket of other trees "it shoots up its stately white stem without a limb until it overtops its companions of other kinds with its thick-leaved top, one of the neatest, most graceful trees of the New England woods."

Forestry in Kansas.

Mr. R. Douglas states that in Kansas 147,340 acres has been planted with forest trees, as follows:—11,600 of Black Walnut; 12,486 of Maples; 2,637 of Honey Locust; 55.553 of Cotton-wood; and 65,771 of other varieties.

Good Hardy Border Plants.

M. H. Lester, in *The Gardener's Monthly*, recommends the following trees as having been particularly attractive at the Botanic Gardens, at Washington, D.C., viz.:

(1) *Anemone Japonica*, a beautiful herbaceous plant, with tall branching flower stems two or three feet high, which commences to bloom when spring flowers are done, and lasts till frost.

(2) *Helianthus multiflorus plenus*, or double perennial Sunflower, which grows about four feet high, and commences to bloom about the last of July in that latitude; and

(3) *Platycodon grandiflora*, one of the Bell Worts, which is very beautiful. It grows about two feet high, and is covered with lovely blue flowers, until cut down by frost.

The Folding Sawing Machine.

It is scarcely in accordance with the object of this journal to encourage the destruction of forest trees, but rather to preserve them. Yet the builder must have lumber, and the housekeeper her fire-wood, for these supplies the best tools are the most economical. Our engraving represents a machine which is so constructed that it can be worked by one man, and as it only weighs 41 lbs., it can be carried to the woods and back with ease. It folds up as completely as a pocket knife, and can be quickly adjusted for either sawing down a tree, or for cutting up logs for either lumber or fire-wood. It is claimed that from five to six cords of wood per day can be cut with this machine, but having never given the instrument a trial, we cannot give any personal testimony concerning it.

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

A New Year's Greeting.

WITH this issue the CANADIAN HORTICULTURIST greets its three thousand readers in a new costume, hoping by its cheery monthly visits to aid in making the New year a happy and a prosperous one to them all.

At considerable expense the Executive Committee has had a new and beautiful engraving made for the cover, enlarged the journal into a better form, secured a better quality of paper, and more expensive illustrations; confident that our readers will so appreciate our efforts in their behalf as to sustain our venture with a largely increased subscription list.

Hints for the Month.

ACCOUNTS.—On the 1st of January, every one who is making a business of fruit culture, or of gardening, should balance up his accounts for the old year, and be able to say just how much his net profits have been for the year past. Then he should open his accounts for the year. It will be wise to keep a separate account of the expenses and proceeds of each kind of fruit in one book, thus proving which is most profitable; in another an account of the daily sales or shipments through the season; and in another a cash account. In this way only can the commercial orchardist be master of his business.

READING.—Amid such stores of useful information, that man is foolish who pursues his vocation with eyes and ears closed. In almost every department there are now standard books of information, and the leisure of winter is the time to read and study these sources of knowledge. For instance, on the orchard we have *Downing's Fruits of America*, *Thomas' American Fruit Culturist*, *Warder's American Pomology*, besides numerous special works on the apple, pear, peach, grape, small fruits, etc., etc. And the Canadian fruit-grower will find in the ten volumes which have been published of the CANADIAN HORTICULTURIST, and in the eighteen annual reports of discussions and papers on fruit culture read at the meetings of our Association, a compendium of indispensable information, just adapted to our Canadian climate.

LADDERS.—In the leisure of the winter season the fruit-grower may still find many ways of using his time to advantage. Among other things his ladders need to be all gathered in from the orchard to fruit packing house, all necessary repairs given them, and then a coat of paint. There is enough danger climbing about among trees, without asking a picker to use a dilapidated half-rotten ladder. Some may be broken, and with them a useful adjustable ladder might be made, as suggested by a writer in the *Farm and Home*. The upper round of the wide ladder runs through slots in the narrow one, and the slots are made wider in one direction than the diameter of the round, so as to receive a block to fasten it securely in its place. A step-ladder may be made of this by setting it at the desired angle.

PRUNING may be done in small way on mild days, when the wood is not frozen. Wounds more than half-an-inch in diameter should aways be avoided on orchard trees if possible, but if necessary, they should be covered with paint or melted grafting wax, to favor the healing process. The vineyard perhaps was left half pruned last November, and advantage may be taken of the fine days to continue the work of cutting off the superfluous wood. This may be cut up and stored in damp sawdust or sand until time for planting cuttings or for using them as scions for grafting.

MICE.—The orchardist needs to keep a sharp lookoutagainst the depredations of these pests during the months of January and February, especially after eacn heavy fall of snow. Our custom is to carefully clear away all rubbish and grass from the trunk in the month of November and pack a small mound of fine earth about it. This is a perfect protection from mice, unless near a rail fence, where deep snow banks accumulate. In such places the tramping of the snow about the trees is the only sure safeguard at this season. The *Weekly Star* gives the following method of poisoning mice in an orchard: "Get small blocks of wood four or five inches square, and bore inch holes in them half inch deep. Mix cornmeal with any kind of poison and ram a small quantity in the holes. Leave a good many of these blocks around the trees. No other animals can reach the poison but the mice, and they will soon disappear. Before the snow comes, gather the blocks into several places and cover each of them with a sheaf of straw. The mice will gather under these and find the baits, and the trees will not be damaged.

The Winter Meeting.

IN accordance with the desire of several gentlemen connected with our Association who reside in the eastern part of the Province, it has been decided to hold the next meeting in the City Hall, Ottawa, on Wednesday and Thursday the 8th and 9th days of February, 1888. As this meeting will be near the eastern limits of our Province, a cordial invitation is extended to fruit-growers and gardeners in the Province of Quebec to be present and take part in our discussions. It is difficult to make a complete programme in advance, but the following is a forecast of it, subject to some minor changes.

PROGRAMME.

TUESDAY.

8 p.m.—Directors' meeting at the Windsor Hotel.

WEDNESDAY.

10 a.m.—Public meetings begin, free to all. Subjects,—(*a*) Experience with Russian apples in the cold north, introduced by Mr. A. A. Wright, Renfrew, Ont. (*b*) Best five varieties of apples for Carleton County. (*c*) Raspberries, and their culture in the Ottawa Valley, P. E. Bucke, Ottawa.

2 p m.—(*d*) Grapes in the Ottawa Valley, R. B. Whyte, Ottawa. (*e*) Best and hardiest shrubs for the lawn in Northern latitudes, Mr. Jas. Fletcher, of the Experimental Farm, Ottawa. (*f*) Hardy roses for outdoor cul-

tivation at the cold north, Mrs. A. A. Wright, Renfrew, Ont. (*g*) Best bedding plants to purchase for lawn and border, N. Robertson, Ottawa.

8 p.m.—Addresses of welcome (*h*) Remarks on the principles of landscape gardening, Prof. J. Hoyes Panton, M.A., of the Ontario Agricultural College, Guelph, Ont. (*i*) Paper by Miss Annie L. Jack, Cheantauguay Basin, P.Q. (*j*) Address by Prof. Wm. Saunders, Director Experimental Farm, Ottawa.

THURSDAY.

10 a.m. (*k*) Plums. Best varieties for the Ottawa Valley. (*l*) Handling of our fruits by the railway and steamboat companies, the accommodation given, the grievances of the past, the requirements of the future. Our most reliable markets, and the best routes by which to ship. (*m*) The most advantageous way of introducing new fruits, W. W. Hillborn.

2 p.m.—(*n*) Hardy fruits, a paper contributed by Dr. Hoskins, Newport, Vt. (*o*) The judging of fruits, introduced by the President. (*p*) Best goose-berries for Carleton Co. (*q*) Best varieties of Chrysanthemums. Manner of cultivation.

The directors will be pleased to see a large local attendance of ladies and gentlemen at all the meetings.

Accommodation may be had at the following hotels, providing rooms are engaged two days in advance: The Brunswick, $1.00 per day; the Windsor, $2.00 per day; the Grand Union, $2.00 to $2.50.

Certificates for reduced railway fares will be furnished to any one who applies for them to the Secretary, L. Woolverton, Grimsby, Ont.

There will be a Question Drawer on the table, which will be opened at invervals by the Secretary. The public are at liberty to make free use of it for inquiries about Fruits, Flowers or Forestry.

DELEGATES FROM THE EAST.—Mr. R. W. Shepherd, of Montreal, writes: "Our Horticultural Society will send up representatives to attend your Winter Meeting at Ottawa. The matter was brought up at one of the meetings of Directors, and Mr. Chas. Gibb, R. Brodie and myself were named.

QUESTION DRAWER.

The Artillery Plant.

1. Kindly name the enclosed plant, and say what treatment it should receive.—P. JAMES, *Glen Orchard, Muskoka, Ont.*

Its botanical name is *pilea muscosa*. It is not found in our Canadian woods, but is an exotic much used by florists. We have a native species belonging to the same family, viz.: *pilea pumila*, clear weed, which grows in low woods.

As to its treatment, Mr. Anton Simmers, of Toronto, writes as follows:—

Pilea muscosa is a species of plants extensively used for massing in flower beds—it is freely propagated by cuttings. The plants are also well adapted for baskets, stands or rockeries, and are often used to hide the earth of large pots of tropical plants. It is a native of the West Indies, a perennial, and remarkable for the manner in which it discharges its pollen grains. When the flower is ready to expand, the least moisture causes the calyx to expand and the pollen is thrown out with great force to the distance of nearly a foot. By putting a plant, when in flower, quickly in a vessel of warm water, these discharges will be rapidly kept up for some minutes, a perfect representation of miniature artillery both in sound and smoke, therefrom it gets its common name, "The Artillery Plant."

Best Varieties of Fruits.

2. APPLES. Please name the best and most profitable varieties for spring planting.—THOS RICHARD, *Alvinston, Lambton Co., Ont.*

No one can give an absolute list in reply to this question, so much depends upon soil, situation, aspect, latitude, markets, etc. For *summer* apples we would recommend for your section Yellow Transparent, Red Astracan, Duchess of Oldenburg. *Fall*—Gravenstein and Maiden's Blush. *Winter*—Greening, Spy, American Golden Russet, King.

3 PEARS. Please name best varieties for profit.—T. R., *Lambton Co.*

For *summer pears* we can recommend the following as having been tested and proved most satisfactory at Maplehurst Fruit Farm, Grimsby, which is about the same latitude as that of Alvinston, viz:—Rostiezer, Bartlett and Clapp's Favorite. *Autumn*—Duchess, Belle Lucrative, Louise, Sheldon, Anjou and Howell; and for *winter*—Lawrence, Winter Nelis and Josephine de Malines. Of these the Duchess, Louise, Anjou, Josephine de Malines succeed best as dwarfs, that is budded on quince stock instead of being grafted on pear stock.

4 PLUMS. Which varieties are best, and what are merits of Moore's Arctic?—F. R., *Lambton Co.*

A good list would be green and yellow—Washington, General Hand, Imperial Gage, Coes Golden Drop; red and purple—Pond's Seedling, Lombard, Glass', and Duane's Purple. We have not yet fruited Moore's Arctic, but it is highly commended for the northern sections for its hardiness, and it is also said to be less subject to the ravages of the curculio than the more tender varieties.

5. GRAPES. Which are the best varieties of grapes to grow for market?—T. R., *Lambton Co.*

In view of the present over-production of grapes for both Canadian and American markets, we would advise growing only the largest and choicest varieties if you look for any profit. Among black grapes, Rogers' No. 4 (or Wilder) is a fine large sort, of excellent quality, ripening about with the Concord. Moore's Early is the best of the well tried early black grapes, preceding the Concord by nearly a fortnight. It is of a fine size, but not equal to the Concord in productiveness. The Concord should not be omitted from any collection. Of red grapes the Rogers' 9 (Lindley) is one of the best on account of its size and quality. It ripens just before the Concord. Agawam (Rogers' 15) and Salem (Rogers' 22) are also equally excellent, but the latter, which ripens about with the Concord, is often badly affected with mildew. It is particularly desirable for its winter-keeping qualities. The Delaware, though small in size, has not yet been surpassed for excellence of quality. It needs high culture and plenty of plant-food. Among white grapes try Jessica, Niagara and Pocklington, they will ripen in the order named and thus give a succession. Some who have tested Moore's Diamond claim that it promises to surpass them all in quality and equal any of them in productiveness, but it is too soon yet for us to give any decided opinion.

OPEN LETTERS.

Plant Distribution.

Through the liberality of the Fruit Growers Association a very large number of the very best and finest varieties of fruits and flowers are now being grown and tested in various parts of Ontario. The following letters are examples of the testimony received concerning the benefits of our plant distribution:

SIR,—I enclose a list of plants received from the office of the CANADIAN HORTICULTURIST, and their present condition.

1887. A Niagara grape vine, thriving nicely.

1886. A Russian apple tree, doing well, but got broken by the storms of freezing rain in winter of 1886-7.

1885. A white moss rose, doing very well, and now a big bush.

1884. A Deutzia Crenata, now a fine large and beautiful shrub.

1883. A Russian apple tree, now about 6½ feet high.

I received all these by post.

A. D. FERRIER,

FERGUS, *Dec. 17th*, 1887.

BROCKVILLE, Dec , 1887.

SIR,—As suggested in your prospectus for this year, I choose from your very liberal list, "No. 4, Package of spring flowering bulbs." Your ever improving, and always welcome and instructive monthly, deserves the support of everyone owning either garden, orchard or house plants. How you can afford to give so much for so small a subscription, I cannot imagine, and I do hope you may be rewarded, as you deserve, by a largely increased subscription list for 1888

Wishing you every possible success,

Yours truly,

JOHN COCHRANE.

BROCKVILLE, ONT.

SIR,—Please find enclosed my subscription to CANADIAN HORTICULTURIST for current year. I could not think of doing without it.

The *Catalpa* you sent me two years ago, after doing first rate the first year, has this year withered and died. I think our climate is too cold for it.

The Ontario Strawberry has done splendidly. I have now from the three plants you sent me, over five hundred, and had fruit this summer which measured 6½ inches in circumference. The flavor is delicious. I think that next summer I will have all the fruit I want for home use, and some to spare.

Yours very truly,

D. S. MACDONALD.

MAHON BAY, N.S., *Oct. 1st, 1887.*

SIR,—The Dewberry received last year bore several berries this season. Jet black; larger than Snyder, and ripe with Gregg blackcap; poor flavor, will need mulching to keep the fruit clean. W. M.

OSHAWA.

OUR MARKETS.

APPLES.—Our anticipations have been well sustained respecting the price of this fruit. They are quoted in Toronto @ $3.00 for best winters, with upward tendency; Philadelphia, about ditto; Montreal, about ditto in car lots; while English market reports continue most encouraging, showing a sharp advance of prices. Choice varieties now bring about $5,00 per bl. in Liverpool market.

ONIONS.—Messrs. Pancoast & Griffith, Philadelphia, write: "The Onion crop is generally reported quite light in the principal onion growing districts of the United States.

In Connecticut the crop does not average more than 275 bushels per acre, on her 800 acres, which is below her usual production, and is small, and bad keeping stock.

In New York the crop is not turning out 150 bushels per acre, on her 2,500 acres, against 248 bushels per acre last year.

About the same shortage is sustained in New Jersey, and similar reports are received from the west. Yellow Onions are now worth $2.75 to $3.00 per barrel. Dec. 8th.

In Toronto they were quoted, about the same date, at from $3.25 to $3.50 per bl.

POTATOES are reported a shorter crop than that of 1881, so that they should sell unusually high before spring. In Toronto retail prices range from 90 to 95 cts. per bushel for best qualities. In Montreal, on Dec. 30, they were quoted at 75c. per bag in car lots.

Messrs. Pancoast & Griffiths, Philadelphia, write: Dear Sir,—It is evident this spring we shall have to look elsewhere than to Maine for our supply of seed potatoes, and it occurs to us that some of your patrons might find it to their profit to ship unmixed Rose here the latter part of February and in March, when we shall have demand for several thousand barrels, principally for *pure Early Rose*. The demand is commencing already from Florida and Georgia, and we are selling the best Rose seed at $3 25 per barrel here, and look for prices to rule up in February and March.

MONTREAL.—Messrs Vipond McBride write, "Trade is fairly brisk mainly in anticipation of holiday requirements; apples are easy, and inclined to be lower." They send quotations as follows:—Apples, best selected, $3.00; car lots, $2.25 to 2.75; Catawba grapes, 10c. to 12c. per lb.; dried apples 6 to 6½c. per lb.; evaporated ditto, 9 to 10c. per lb.

GRAPES.—A report of the sale of 150 baskets of Canadian Grapes, shipped to Glasgow, Scotland, last October, will appear in our February number. This and much other valuable matter has been crowded out of this number.—ED.

AT THE FIRESIDE.
At nightfall by the firelight's cheer
My little Margaret sits me near,
And begs me tell of things that were
When I was little just like her.
Ah, little lips you touch the spring
Of sweetest sad remembering,
And hearth and heart flash all aglow
With ruddy tints of long ago.
I at my father's fireside sit
Youngest of all who circle it,
And beg him tell me what did he
When he was little just like me.
JOHN D. LONG

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OSTHEIM.

FOR CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

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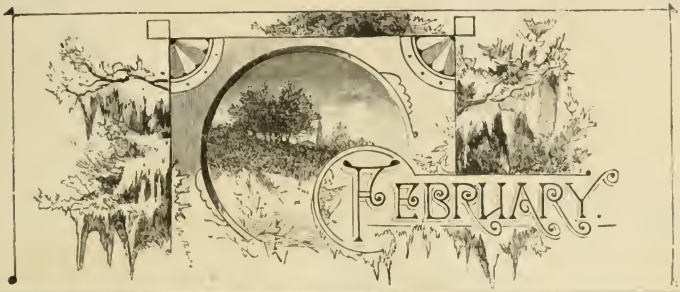


THE OSTHEIM CHERRY.

SINCE the Ostheim Cherry* has been placed among the fruits to be sent out next spring among the members of our Association for testing, our readers will, no doubt, be much pleased to see a painting of this highly desirable variety. Prof. Budd says it is a general favorite throughout Europe with prince and peasant, and that European pomologists claim it to be hardier in tree, and higher in quality of fruit than the Montmorency varieties, such as the Early Richmond.

In many respects this German cherry is similar to the Russian Vladimir, especially in foliage, habit of growth, color of fruit, and is thought by Mr. Gibb to be closely related to that variety. It derives its name from the town of Ostheim in Germany, where it was first grown, just about two hundred years ago by a German professor. He brought it from the Sierra Nevada mountains in Spain, where it was found growing at elevations of 5,000 and 6,000 feet above the sea level. Charles Downing describes the variety thus :—"A small growing tree of the Morello class. Fruit large, roundish oblate, slightly compressed on one side. Skin red, quite dark at maturity. Stalk long. Flesh liver-color, tender, juicy, rich, almost sweet sub-acid. Very good. Middle of July."

According to Prof. Budd, of Iowa, the Ostheim was brought to the Western States by German settlers, and has been tested in Minnesota, Iowa, Kansas, Nebraska, and Missouri, where it has proved its hardiness and verified the truth of the above description.

We shall be much pleased if this and

* We cannot promise this variety of Russian Cherry to members selecting it later than Feb. 1st.

the Vladimir, of which unfortunately we could only send out a limited number last spring, prove suitable to the northern portions of Ontario. The Morello cherries have already proved themselves more desirable for family use than the Heart and Biggareau; and the Large Montmorency and the Early Richmond have been sufficiently tested to be safely recommended as superior for general planting to the old Kentish varieties which have been so universally popular; and now we have the Vladimir and the Ostheim, which if not superior to the former in other respects, have at least the advantage of being adapted to a more rigorous climate.

RAMBLES AMONG FRUIT GROWERS.—III.

A CALL UPON MR. GEORGE LESLIE, SR., TORONTO.

A RIDE of two miles east from market on King St., Toronto, brought the writer to the old homestead of the Leslies. He was received by Mr. Geo. Leslie, Sr., with great cordiality, and after some general topics had been discussed, he was invited to accompany him in a walk about his extensive orchard and nursery grounds. During the walk, conversation was engaged in to the following effect:

"I have observed your name as prominent for a long time among the citizens of Toronto."

"I came to Toronto in the year 1825, from John o' Groats, in the north of Scotland. At that time there were only five brick houses in the city."

"You have seen a good many changes in the town since then?"

"Yes, indeed! Value of land, for instance, has wonderfully advanced. A corner lot which I owned at one time and sold for a site for a bank for $100 per foot, is now worth $2000 per foot; and although these grounds are so far east of the Don, they are already too valuable to hold for orchard or nursery purposes, and must be sold soon for building lots."

"I think you have been for a long time, more or less, interested in the Fruit Growers' Association of Ontario."

"Yes, I have been interested in it from its formation; and I now read THE CANADIAN HORTICULTURIST with much pleasure. But I think you should devote more attention to the subject of Forestry."

"What trees would you recommend for

'PLANTING IN MANITOBA?'

"I would recommend the *Silver Poplar* as a most excellent tree for that country. It is perfectly hardy, and will grow anywhere, and that with great rapidity. There you see a tree set in a swampy place, and notice its wonderful growth It is about forty years of age, and if cut up would make at least four cords of wood. And here are some specimens grown on high and dry ground. Those eight were felt to grow as they stood in the nursery rows, about ten inches apart, except that two have lately been cut out.

But you will notice what a strong and thrifty growth they have made. It would be impossible for any animal to squeeze through between those trees. Plant the Silver Poplar on the prairie, about two feet apart in the row, and in a few years they would, without any pruning, make an excellent and impassable fence."

"It suckers very freely."

"Yes, but for Manitoba that is another point in its favor. Where you want to multiply the number of forest trees as fast as possible you want one that is easy of propagation. Plant cuttings merely of this tree, and they will grow with perfect ease."

"What do you think of the *Lombardy Poplar?*"

"That is another excellent tree for Manitoba. It is a rapid grower, is very hardy, and can be used to great advantage in fence building. Plant the trees, six feet apart, and when they are large enough to bear it, run wires along from tree to tree."

"I have seen it used in that way in Ontario to great advantage. I have

The Scotch Pine.

used other trees in that way for fences, and I find the plan works well, if I first nail a narrow strip up the trunk of the tree, and drive the staple into that. What

PINES

do you esteem most highly?"

"The Austrian and the Scotch pines I consider most desirable, they are so hardy, succeed so generally, the dark foliage is so handsome, that they are much used in parks and pleasure grounds. But the prettiest pine for a private lawn, I know of, is *Pinus Cembra*, which you noticed in the October No. of THE CANADIAN HORTICULTURIST for 1887. There on my lawn you see two specimens. Their pyramidal form and silvery green foliage combine in making them great favorites."

After receiving the kindest hospitality at his home, the writer parted from Mr. Leslie, having enjoyed a most profitable visit, to the advantage, we hope, of the readers of these columns.

ADVICE ABOUT NEW FRUITS.

BY JOHN LITTLE, GRANTON, ONT.

I AM interested in the small fruit growing, especially the strawberry, and in taking a number of horticultural papers, Canadian and American, I come across articles of correspondence containing a good deal of sense and nonsense too.

Every year there appears to be great excitement among the nurserymen over the discovery of a new strawberry, raspberry, blackberry, grape or currant. It is generally said to have originated ten or twelve years ago on some cold, rocky barren place, or on the northeast corner of some hill-top. It yields enormously of the "most luscious, sprightly, subacid fruit," is worm, bug, fly, and weatherproof; and is immensely superior to any thing of the kind now under cultivation. Baskets of the choicest fruit are sent to prominent horticulturists, whose letters returning thanks for the favor, be they ever so guarded and carefully worded, are deftly sandwiched between the testimonials of interested parties, and published as eulogiums.

Sometimes a new fruit is kept before the public by every means known and unknown for three or four years before it is offered for sale. The plants in the meantime are increased and multiplied by all the most rapid methods known to horticulturists, when the manipulators think the public appetite is sufficiently whetted, they suddenly and with great blare of trumpets spring their stock on the market, sell out at incredible prices, pocket the funds, then quietly return to private life and enjoy themselves. The fruit may be well adapted to a small section of the country, and worthless elsewhere; and in two or three years it may be bought cheap as the cheapest. Occasionally a variety is introduced that really is superior in some respects to any we have, and is adapted to a wide range of country. By far the largest portion of new sorts, are only adapted to certain localities or particular soils.

The only sure means of ascertaining which is best is by testing them, and this may be easily and cheaply done. In the first place, do not buy five-dollar grape vines; do not throw away money on blackberry and raspberry plants at one dollar each; do not squander your money on currant and gooseberry plants, at even seventy-five cents each.

In a year or two you can buy dozens of these fancy, much advertised things for less than one of them costs now.

When you hear of a strawberry which you think will be an acquisition to your locality, buy half-a-dozen and test them; make the ground rich, deep and fine, setting the plants four feet apart, giving them good cultivation; keeping the surface loose during the season, and with care, you can make from these five or six hundred plants; and the next year they will fruit. You can then tell whether to set out more or not. It is not best to increase the plantation largely until after at least three years' trial.

If you wish to try a new cap raspberry, get two or three plants in the fall, set in good soil and cover with straw. Remove the straw the following spring, and when the plant is a foot high, nip off the top. Nip all the branches at about eight inches. Keep it in until August, then let it go. As the end of each branch touches the ground, cover it with two or three inches of earth. Each plant thus treated will furnish from twenty to thirty plants. If set in the spring, they will not give so many plants.

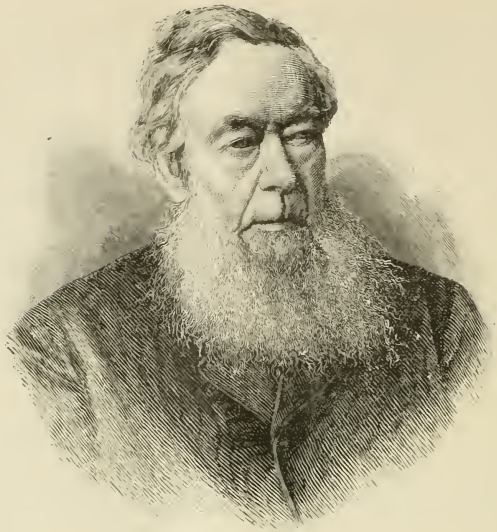
To increase the red raspberry, it is best to plant in the fall also. It is needful also to have ground rich and mellow around the canes; and if the season be dry, mulch heavy with straw. In the fall, when the leaves are off, take up the entire plant, being careful to get all the root. Cut the root into pieces about an inch long, and place them an inch apart in a box of fine soil; bury in the ground so they will not freeze. In spring take them up carefully, plant them where you wish them to grow, and, with care, nine out of ten will make good plants that season. Blackberries, currants and gooseberries, can be rapidly increased the same way.

In my next paper, I will speak of strawberries, old and new, as tested here at Granton.

SOME PROMINENT CANADIAN HORTICULTURISTS.—II.

GEORGE LESLIE, SENR., TORONTO, ONT.

THE subject of this sketch is the second son of the late William Leslie and Catharine, eldest daughter of Jas. Beatty, and sister of the late Rev. Jno. Beatty, of Cobourg. He was born in the Parish of Rogart, Sutherlandshire, Scotland, in the year 1804. At the age of 16 he went to Tarlogie, Ross-shire, and served an apprenticeship of three years in the gardening profession. He then, under the same proprietor, took charge of the garden, hedges, etc., at Arrabella, where he remained two years. On the 1st day of April, 1825, being his 21st birthday, he with his parents and six brothers and a sister set sail for America, and after a passage of six weeks landed at Quebec. He immediately obtained employment. In the October following he came to Little York, now Toronto. At that time there were only five brick stores on King Street, all situated east of the market, viz, Baldwin's, Allan's, Proudfoot's, Stegman's and Lesslie & Sons'. He at once went to Streetsville, whither his father had preceeded him, and chopped in the bush all winter. In the spring he returned to Little York and entered the service of the late Hon. George Crookshanks, Commissary-General. He remained with him one season, and then for several years acted in the capacity of gardener and florist for the late Hon.



GEO. LESLIE, SENR.

Wm. Allan, father of the Hon. Geo. W. Allan; the late Hon. John Henry Dunne, Receiver-General; the late Chief Justice Sir Wm. Campbell; the late Bishop Strachan, and others. In 1830 he purchased, from the Rev. Jas. Beatty, the old homestead at Streetsville, previously occupied by his father, a portion of which he cleared and improved. In 1837 he located permanently in Toronto, leasing Russell Abbey Square, bounded by Caroline, now Sherbourne, King, Princess and Front Streets, with all the buildings thereon, using the ground for the growing of shrubs, flowers, vegetables, etc. He soon after established himself in business as a grocer and seed merchant. His first stock of seeds was brought from London, England. In 1838 the Gas Company erected their works just south of the premises occupied by him, and his store was the first building in the city lighted with gas, crowds coming to view the new illuminant. He subsequently transferred his business to Yonge Street upon the present site of the Bank of Commerce, where he remained until 1845, when the city purchased the property for the purpose of opening up Colborne Street, paying him the sum of $5,000 in corporation debentures. He then leased twenty acres east of the Don river for a period of 21 years, where he began business as a nurseryman, florist and gardener. He subsequently purchased this and adjoining properties to meet the requirements of his business which increased most rapidly. Our subject is at the present time one of the oldest horticulturists in the Dominion, and has been an active member of horticultural and agricultural societies for many years, and is a life member and director of the Horticultural Society and Botanical Gardens of Toronto. During the 43 years that he has been established in

business he has been awarded at exhibitions many *gold, silver and bronze medals*, a large number of diplomas and hundreds of other prizes for superiority of productions. In the year 1880 a *special silver medal* was presented to him by the Agricultural and Arts Association of Ontario. The inscription thereon reads: "To Geo. Leslie, sr., in grateful acknowledgments for his horticultural efforts, by the Council of Agriculture and Arts Association of Ontario." When the first fire company was formed in York he became a member. In 1853 he was commissioned a magistrate by the Hon. Robert Baldwin, the duties of which office he has ever since discharged with fidelity. He filled the office of school trustee for nine years and was for one year alderman for the city, but did not seek re-election, not being inclined to neglect his business to engage in political strife.

His two sons are associated with him in the business.

He has two daughters, both married. The elder to Mr. R. C. Jennings, manager of the Bank of Commerce at Paris, and the younger to Mr. A. McD. Allan, the present president of the Fruit-Growers Association.

POMOLOGICAL.

The Wealthy Apple.

THE following statements concerning this very desirable hardy apple were made at the meeting of the Montreal Horticultural Society, at Granby, P.Q., last year:—

Mr Shepherd—I think I was the first to fruit the Wealthy in Quebec, at least I was the first to exhibit it at the Montreal Horticultural Exhibition. It resembles the Fameuse a little; it is a juicy apple, more juicy than the Fameuse, a little more acid, and of very fine flavor—a peculiar flavor. It is more of the Spitzenburgh than the Fameuse. I can tell one circumstance which makes me think it is a good apple. My children and wife, and any ladies stopping at my place in the autumn, always choose a Wealthy; they have twenty or thirty varieties to choose from, but they always choose that. Children know very well when an apple is good, and when they are at liberty to choose from several, and always eat one variety, you may rest assured they know what they are about.

Mr. Honey—As far as the Wealthy tree is concerned, I find it is not as hardy as the Duchess. I have quite a few planted about the same time as Mr. Shepherd's. I have perhaps twenty of them. This year I lost two from being heavily loaded, and on others one or two of the branches have broken off. That is one objection I have, and another objection is that the stem is rather long and like the crab, so that it does not hold the fruit well. I have not been able to keep them as well as the Fameuse, but I do not think I had one spotted one in my orchard. This year they were not so well colored as usual, but they were free from spots, good size and good cookers. Of course if you take the Fameuse and sort them to get them as clean as the Wealthy, the Fameuse will sell better, but there is more money in the Wealthy.

Chairman—Is there any difference in the keeping qualities?

Mr. Honey—Not with me; I have found them to keep about the same.

Mr. Shepherd—With regard to the keeping qualities of the Wealthy, if you allow it to get ripe on the tree it will not keep as well as the Fameuse. With regard to the salability of the Wealthy, last year my experience with Fameuse was that 90 per cent. were so bad I could hardly sell them, whereas I do not believe there was five per cent. of the

Wealthy rejected. I have sold the Wealthy to be shipped to England the last two or three years. Last year I sold ten cases packed in the Cochrane case—like an egg box—each case will hold about a bushel. I sold them for $3.50 a case (case included,) in Montreal, for export to England. The buyer secured them in the month of June. I told him he would have to pay me a good price, because only the very best of them are put in cases ; so that when you consider it is picking the best of your crop, and considering the carefulness with which they have to be handled, and the carefulness with which the cases have to be handled, it was not so high, still they paid me very well.

Keeping Fruit.

The great secret for preventing decay in fruit through autumn and winter, is to preserve a uniformly low temperature. If changing and fluctuating, they quickly rot. Currents of air are bad, because they make changes in temperature. We find that apples keep longer in winter by merely wrapping each specimen in tissue paper and thus excluding air. Hence the advantage of packing in any soft, powdered substance, as dry sawdust, bran, ground plaster, or bedding in moss. On a large scale this cannot be done, and large fruit rooms must therefore be kept cool without changes of air. Much may be accomplished by ventilating windows, admitting cold air in the night, and excluding warm air in the day time by closing them. These remarks apply more particularly to apples and pears, and also to grapes. They would also apply to small and perishable fruits, if it were an object to keep them, but the common practice is to consume them while fresh.—*Country Gentleman.*

Bearing Apple Trees.

An experienced eye will detect whether an orchard is in bearing or not at a distance far too great to see the small fruit. Bearing trees have a peculiar look to them. They lack the dark green foliage that an apple tree in full vigor has put on by midsummer when not burdened by a coming crop. Fruit-bearing is exhaustive, and a bearing tree needs liberal supplies of mineral manures to perfect its fruit. Potash is important in making the seeds, and with an overloaded tree may be applied in solution any time in July for late ripening fruits with advantage.

Prospects.

Prof. French predicts a considerable mortality in apple orchards next year in consequence of the severe and protracted drouth of summer and fall. Something will depend upon the severity of the winter. If the ground had frozen before heavy rain falls, no doubt the death of both fruit and forest trees would have been a heavy one ; but the ground is now wet down as far as the roots extend, and in the event of a mild winter, we may hope that the loss will not be a very large one.—*Fruit Growers' Journal.*

The Apple Industry in Michigan.

The apple industry is undoubtedly diminishing in many parts of the State. The old orchards are beginning to fail and new ones are not being set to any extent. Although prices for apples have been low for the last few years, there is every reason to believe that an orchard of moderate extent if intelligently managed, will add a reliable source of income to the general farmer. There are hundreds of orchards throughout the State which are not bearing but which could be brought into fruitfulness for a number of years by vigorous culture. There is no doubt but that judicious pruning, good tillage and liberal manuring will maintain or restore the fertility of most orchards. Some orchards are now, of course, too old to rejuvenate. There may be

danger in vigorous orchards of carrying the cultivation so far that nearly all the energies of the tree will be directed to the production of wood. The grower must determine the culture which shall meet his requirements. It is true that in the great majority of cases, however, the culture is inadequate. Barn yard manure, when it can be spared, is valuable for the bearing orchard.

Trees in Grass.

PERMANENT sod is an injury to the orchard. This has been proved in the experience of nearly every successful orchardist. It is forcibly illustrated in the instance of the old College orchard. In the earlier experiments conducted by Dr. Beal the same fact was emphasized. For some years he kept a part of the trees in sod, others were cultivated thoroughly, while still others were cultivated at varying distances from the body of the tree. Even as early as 1874 he found that "trees in grass made less growth, looked yellow in foliage, and bore smaller fruit and apparently less of it." In 1875 he observed that "the evidences look more and more strongly every year against the propriety of leaving trees, in our section, in grass. They have stood the severe winters no better; they have borne no better; the apples are smaller; the trees grow more slowly; a greater proportion of trees have died than of those cultivated each year. So marked have been the results that we have plowed up about half that part of the orchard which was left in grass."—*L. N. Bailey, in Bulletin 31, Agric. Coll., Mich.*

THE VINEYARD.

Early Grapes.

I FIND that sometimes one grape and sometimes another will come out ahead, according to the season. Usually the Brighton is considerably ahead of the Delaware here. But the Brighton requires a warmer season than the Delaware, and this year hung back and was not even "a good second" to it. The Tolman (otherwise "Champion," and "Beaconsfield") is positively the earliest grape in any season, but can never claim rank as a dessert grape, though very good for jelly-making. I prefer it to Hartford. Israella is a very good and early grape. Eumelan is about with it, but has a straggling cluster. Moore's Early is just an early Concord in quality, with a smaller cluster and a larger berry. In quality the Brighton is ahead of everything, and in a warm year is as early as any but Tolman. Salem does fairly with me.—*T. H. Hoskins, M.D., Orleans county, Vt., in Farm and Home.*

Fertilizers For Grapes.

POSSIBLY aside from our changeable climate one reason why the grape vine is often diseased in this country is from neglect in properly fertilizing it. The stable manures commonly used have an excess of carbonaceous matter, and are, besides, too strongly nitrogenous in proportion to their mineral elements. The grape vine is a liberal feeder, but this kind of manure makes it run too much to vine without furnishing the material for making fruit. Some kinds of grapes always set too heavily, often three and even four clusters in the present year's shoot. Think how many berries there are in each of these, and one to three seeds in every grape. In elaborating the seed the vine requires plenty of potash and some phosphate. In the fruit these minerals are also found, the potash being especially necessary in changing the green acid pulp of the unripened grape to the luscious clusters which

are so palatable. The early growth of the grape up to the time it attains nearly full size and forms seeds does not specially demand mineral fertilizers. But about midsummer the overloaded vine falters in carrying its heavy load. The grapes refuse to color, and it is then that mildew and rot generally make their appearance, though the rot is a self-propagating disease which once introduced perpetuates itself from year to year. European vine growers manure the vine mainly with ashes, burning the trimmings and applying them yearly to the root as part of their supply. This furnishes both potash and phosphate. Thinning overloaded vines is always necessary with some varieties. In any case diseased bunches or berries should be cut out at once to prevent spread of the infection.—*American Cultivator.*

Coal Ashes For Vines.

TWENTY years ago I planted vines in my yard, where I had to do a good deal of filling in, and the material employed was principally coal ashes. Wherever the ashes came in contact with the vines we had the largest crop of the finest grapes I ever saw, the roots seemed to run riot in the soil to a distance of ten to fifteen feet, and were a mass of fine fibres. The grapes were in large bunches that crowded each other for room, fine, plump, thin-skinned berries, while fruit on vines from the same aged cuttings, from the same parent vines, planted in the natural soil, were late, hard and sour. My varieties were Concord, Catawba and Ives' Seedling.—*A. B., in Vick's Magazine for March.*

Paper Bags.

Dr. E. E. CASE, of Connecticut, favors the use of paper bags for grapes for the following reasons: (1) Protection from insects, birds, dust and predatory fingers. (2) A slightly lengthened period of growth, and therefore a larger size and higher flavor of the fruit. (3) A more delicate and beautiful color and bloom. (4) Almost complete protection from rot and mildew. (5) Protection from early frosts which may destroy the leaves without injuring the fruit.

FLOWERS

SUMMER IN WINTER OR LIFE UNDER GLASS.

BY F. MASON, PETERBOROUGH.

IF I could in the limited space allotted me, make things as beautiful and as really delightful on paper as they are in nature, and thus persuade all my readers who are able to construct a small conservatory or greenhouse, to decide at once that before another summer they would have one, I should think I had done a little toward bringing sunshine, if not happiness, into many a home.

Let us take a walk out into our greenhouses this cold winter morning. Oh! you say, this is a Florida climate, if not a tropical one—but I see the thermometer indicates only 68°, sunshine and all; why, I would have thought it 80° or 90°. Is this not delightful? See the white Calla Lilies, and all colors of Geraniums. Here are some beautiful Hyacinths just coming into bloom, double and single;

how sweet they are! You find it is somewhat cooler in this other end of the house; and here is a grand show of Cinerarias and Primulas, all in bloom. We pass into another apartment finding it warmer. Oh, the roses! What is there so lovely? Here we are in a warmer part, where the foliage plants, especially the beautiful Coleses, of all colors flourish; but let us now retrace our steps, and finish our talk about vines for the window and for the hanging basket. One of the most accommodating and easily grown is the

MAURANDYA,

easily grown from seed, and may be had in mixed colors, such as purple, pink and white. It is excellent for hanging baskets as well as for the window; it will also do well out of doors.

COBÆA SCANDENS

is too strong a grower for baskets, but does nicely for the window, and better still for the verandah. It will run up twenty feet if desired, bearing beautiful, bell-shaped flowers of a purple hue. There is also a variety with a white flower, and another with variegated foliage and purple flowers. This latter kind is not grown from seed, only from cuttings. Cobæa seed is large, and flat or thin, with little substance. The seed must be planted edgewise to germinate, for if allowed to lie flat it will not grow, but speedily rot.

Another very suitable one for baskets is

THUNBERGIA.

The flowers are from one inch to one inch and a-half in diameter. It may be easily grown from the seed. The colors are buff with black eye, white with black eye, and self colors of buff, yellow and white. This vine is extremely ornamental, and for baskets or vases, there are few plants superior to it. It may also be used in beds out of doors, in which case it should be pegged down like Verbenas.

LOPHOSPERMUM

is another strong grower which does well in the house, basket or vase. It

has fine, large, pink, trumpet-shaped flowers, easily grown from seed.

The

MOON FLOWER

does fairly well as a window plant, but the verandah is the place for it, and if in good soil, it will well repay the little care it requires with foliage and flowers. The flowers of the true moon-plant average about four inches in diameter, opening in the evening or sometimes after dark, and those words of the poet, though intended for another variety of flower, are suitable for this:

"When pleasures, like the midnight flower
That scorns the eye of vulgar light,
Begin to bloom for sons of night,
And maids who love the moon."

ROSES IN WINTER—CARE, TREATMENT, ETC.

BY F. MITCHELL, INNERKIP, ONT.

AT the present season this is almost altogether restricted to the conservatory or the window garden. Roses in the open ground if properly cared for in December by laying down and protecting as required, will need no further care till spring, excepting to keep a look out for field mice. The best and quickest way to get rid of these destructive little animals is to poison them with arsenic. I find this to be much better for the purpose than strychnine, which I have also tried but with indifferent success. I think this is owing to the crystals or grains of strychnine being so coarse that the mice can easily avoid it. I put the arsenic in a newly cut piece of turnip, and place it on the ground in the runways, or where the mice are likely to run, covering with a piece of board in such a way that there is an inch or two of space between the board and the ground, and if there is snow, cover the whole deeply with it, Field mice will eat almost any kind of vegetable, but turnip is the best to use, as frost does not easily destroy it.

I cannot recommend roses as strongly as some other plants for house culture in winter. If, however, they are used in this way I would advise that no effort be made to bring them into bloom until the latter part of winter, when the days are longer and brighter than they are now. It is best at this time of the year to keep the plants resting in the pots in the cellar, or some other cool place. The earth in the pots should be kept rather dry, and if the temperature should fall a little below freezing occasionally it will do even tender roses no harm. If kept back this way until after mid-winter they may then be brought into the light and warmth of a bright dwelling-room window, and if the variety is suitable will soon make a fairly good display of bloom. By the aid of the conservatory, roses can be had at this season as at all others, and before proceeding further I would remark that any advice here offered is for only those who grow roses for pleasure. It is to the interest of the grower for market to produce his whole crop as nearly as he can at the time when the prices are the highest, while the amateur prefers to have some blooms, at least, at all seasons. The treatment is therefore naturally very different when strong healthy plants and a more or less continuous display of bloom is required, or as in the case of the professional florist whose endeavor it is to force a heavy crop of bloom at a particular season even at the expense of the after health of the plants. It is best at this season to keep the temperature of the conservatory rather low (from forty to sixty degrees will do) and give fresh air when the weather will permit. At this low

temperature some care will be required in watering, as wet, sour earth is very injurious to the roots. In potting roses for the winter I always ensure free drainage by placing in the bottom of the pot a quantity of turf or sod from which the earth has been sifted or shaken. This is far better than the old custon of using broken fragments of pots. A sharp look out should be kept up for traces of the red spider and if any, preventive or destructive measures should be used. The foliage should be syringed or sprayed as much as possible and leaves which are badly affected should be picked off and burned. The spider can be brought under control much more easily now than later on when the sun has more power. Some of the varieties of climbing roses will, I think, give more bloom for less care at this season than any others.

These should be planted in the earth as they root very freely and donot do well in pots. Some of the old varieties are, I think,still the best. I do not knew of any better than Gloire de Dijon or Lamarque for the non-professional grower.

The first is a very free, continuous bloomer, and the latter with its tough enduring foliage is almost proof against red spider or mildew.

If propagation of hardy roses for the garden is carried on in a conservatory, and proper cuttings can be had, it can be pursued now with advantage. Cuttings of hardy roses do not require a high degree of heat to form roots. Plants which were struck and potted off in the summer should be at rest now, and should be watered with great care.

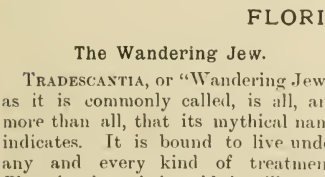
There are many other minor attentions or duties that may arise in connection with the care of roses in winter, but the real rose-lover will not find these cares as formidable or laborious as they appear but rather a pleasant and healthful recreation.

Jan 7th, 1888.

FLORICULTURAL.

The Wandering Jew.

TRADESCANTIA, or "Wandering Jew," as it is commonly called, is all, and more than all, that its mythical name indicates. It is bound to live under any and every kind of treatment. Plant it where it is cold, it will grow ;



TRADESCANTIA.

plant it where it is warm, it will grow faster ; plant it where it is wet, it will grow with a will ; plant it where it is dry, it is growing still ; pull it up and throw it away, and it will surprise you with long joints of luxuriant growth. In water it thrives well ; in poor soil or sand better, and in rich soil, better still. Water it with salted water, or saltpetre in the water, and it will continually look as if just returned from a shower-bath. The green is the best of all, if well grown. The green and white, distinctly n arked—a very handsome kind—and also a very rich and growing variety—has a zebra-striped leaf, with a tiny three-leafed flower. On the whole, this is a most uncommon plant, this "Wandering Jew,"—quite worthy of its name, and can never be out of favor or fashion.—*Farm and Home.*

Begonias in the Window.

IF obliged to confine myself to one class of plants for window culture, I would select the flowering begonias.

They bear dry heat and occasional neglect as well as any, and are not liable to the attacks of insects, while the number and variety of species are large. Next to begonias I would place geraniums. Every one knows how endless is the variety of shades and forms of these beautiful flowers. Then the scented, the silver-leafed, the bronze, the ivy-leafed, the tri-colored—a charming array. One can have a gay window without any flowers at all. The list of desirable plants is almost endless.—*Horticultural Times.*

Fuchsia Culture.

I FIND that with plants which have bloomed continuously all summer there is little hope of their flowering in the winter, unless they are of the Speciosa and Serratifolia varieties. These will often flower eight months in the year, and are called Winter Flowering in the catalogues. Other species can be packed away in boxes, with a light soil, and kept in a cool, dark cellar, where potatoes will not sprout. They must remain dormant and should have neither light nor warmth to send forth their tiny leaves. All their leaves will drop, and they must not have any water unless the soil becomes too parched, and if the cellar is damp this will not occur. In February or March, if you desire the plants to bloom early, they can be taken up and potted in rich soil, composed of one-third well-decomposed cow manure, and two-thirds rich garden soil. This can be prepared and put into a box when the plants are placed in the cellar. I always have a large box of compost ready for the potting of flowers in the spring, and also to plant annuals and raise cuttings when the garden soil is frozen stiff or well covered with snow. So prepare a large box of it and a smaller one of sand, and you can start early vegetables as well as flowers in March.—*Pop. Gard.*

The Mud or Saucer System

of propagation is practised by taking any convenient flat vessel holding sand, to a depth of an inch or more, into which cuttings are inserted. Keep watered with a fine rose, or the sand will wash out of place. Do not shade, but keep in the sunshine. It is essential that the sand be kept saturated with water, as drying is fatal. Temperature from 65° to 100° fahr. Most of the soft stemmed plants may be propagated by this means.—*Am. Garden.*

How I Grow My Chrysanthemums.

[A paper by George Trussell before the Montreal Horticultural Society.]

THIS paper was written in conformity with the conditions upon which the first prize was awarded on Chrysanthemums, the plants having been brought into bloom without the aid of a greenhouse. It may, therefore, be accepted as evidence of what can be accomplished with limited facilities.

I do not pretend to give anything new. The cuttings were put in early—some in February, some in March, and potted in four-inch pots; as soon as they required shifting they got six-inch pots, and four weeks after they got ten-inch pots. The soil was of well rotted manure and sods. Sufficient drainage was given, this being an important point.

If large plants are required they must, from April 1st to July 1st, be pinched about twice a week to keep them bushy. The Japanese varieties are inclined to grow upright, and with these the system of management matters little.

About June 1st the pots were put outside in rows sufficiently distant from one another to allow a man to pass between, taking care not to let the plants root through the pots; to prevent which they were moved once or twice a week. I recommend training, giving each branch the support of a

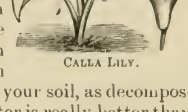
stake to prevent it from breaking with the wind and rains.

Chrysanthemums are vigorous feeders. I supplied them with liquid manure at least three times a week; they were also well watered, to prevent flagging. To prevent Black Fly I steeped tobacco stems in water and syringed the plants.

The stimulant used was chiefly cow manure placed in a tub of water, and stable manure placed in a basket set in water. About the end of September I erected a house to keep the plants from freezing. I chose the south side of a fence, and placed the end of a twelve-foot scantling on the top rail, the other end resting on a similar scantling in front about three feet from the ground, using no boards in the structure; the fence thus formed the back, and one end. After nailing bags along the front to keep out the cold, I placed hot-bed lights on the top, and put a box stove inside to heat the place when required. I continued to cut the bloom until near Christmas.

The Calla Lily.

There is no flower for winter blooming that has received more attention than the Calla Lily, and, at the same time, has disappointed so often. As soon as the weather will permit it to be set out, the owner can be seen tugging it round to find a suitable place for it to rest during the summer months, previous to repotting for winter. The Calla is fully able to take care of itself; all the rest it needs it will take in its own way and own time. Set it out and let it take its chances with other plants, but never water; if it gets wet with the rain it will be all right, and you will find that it will naturally die down. It may have one or two small leaves during the summer, as the Lily will live as long as there are roots to feed on, as it eats all the substance out of the roots, and you will find when you repot it that there is nothing left that were once roots but dried up, black-looking fibre. In order to repot a Lily properly, empty it out of the pot entirely. The same soil can be used again, as the soil is only a substance through which the plant receives its living; the growing Lily depends on light, heat, and water. Put into the pot the same soil mixed with the old roots and chopped up leaves; put as many leaves in the bottom of the pot as you can possibly pack in before putting in your soil, as decomposed vegetable matter is really better than animal matter, the latter will produce larger plants, but they seldom bloom when they grow so large, and if they do it will be only one flower during the winter, and that not until near spring. I have Lilies that have not had any dressing, that have grown just in common soil, with the pots set in bowls of water, and the stocks would not measure an inch and a half in circumference, and they have bloomed freely. After you have finished potting, place the pot in a bowl of water or pan, one that will hold at least a half pint with the pot. This must be kept full of water, as the hot sun will soon dry out all moisture, which is very injurious to the plant at the first starting. Now leave the Lily to take care of itself, and in the course of a week or two you will see it sprouting. The water that is drawn up through the soil by the rays of the sun on the surface of the soil passes through the leaves that have been placed in the bottom of the pot, and thus carries with it carbon gas that is so necessary to plant life. The more decomposed the leaves the more gas. As the leaves unfold they commence taking in carbon from the air, thus, you see, it has a double supply. When the plant is taken into the house, it must have a window where it can have the



Calla Lily.

sun at least two hours a day, besides having a strong light. Keep the pan filled with hot water during the winter, in order to keep the soil heated ; if the plant should not take up all the water during the day, empty it out and fill again with hot water ; Do this daily. There is no reason why a Lily should not bloom, as nature has intended a flower for every plant in its own way, and if properly treated will bring satisfactory results.—*Horticultural Times.*

Using Flowers to Advantage.

THE idea of Mr. John Newhall, of Toronto, about an annual distribution every autumn of surplus bedding out plants among the poor classes, thus cheering their homes during the winter months with geraniums, etc., which would otherwise have been destroyed by the frosts, is a good one ; and if the authorities of the Normal School, Osgoode Hall, and Horticultural Gardens would so dispose of their surplus each autumn, it would indeed be a blessing to many homes.

That every tree, shrub, and plant on such grounds should be labeled with both its common and scientific names, is so patent that it scarcely needs emphasizing. How such an important means of imparting a knowledge of horticultural nomenclature could have been omitted is the astonishment ! We go still farther, and advocate that the grounds of every high school and collegiate institute should be made an arboretum with just as many named varieties as space and means would permit.

A SOUTHERN aspect is the best for a lean-to greenhouse. If in a position sheltered from the north and east winds, so much the better.

YOUR voiceless lips, O flowers ! are living preachers—
Each cup a pulpit, every leaf a book,
Supplying to my fancy numerous teachers
from loneliest nook.—*Horace Smith.*

THE fumes from an oil stove are certainly not good for plants, and such a stove should not be used in a greenhouse or other place where plants are kept, if other means of heating can be devised. To counteract the bad effects of even the best oil stoves, give as much ventilation as possible.

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

Hints for the Month.

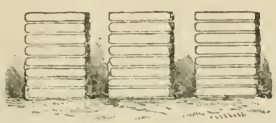
STORING APPLES.—We read in many of our contemporary fruit journals, advice about storing apples and pears in bins, or on shelves and trays, so as to be easily accessible. We have never favored this mode of keeping these fruits, even for home use. In the first place, because we do not find them to keep as well; and, in the second, because in most cellars almost every variety will shrivel more or less.

All fruit keeps best in close, air-tight barrels, and the more perfectly they can be kept from the influence of the atmosphere, the more excellent the state of preservation in which they will open out when needed.

The *Country Gentleman*, however, recommends a modification of the tray system which might prove useful for pears needed for table use, especially if the fruit were packed in the trays with fine hardwood sawdust. The trays are made one foot and a-half by two feet, and with a depth slightly more than the height of the specimens they are to contain, thus:

For apples the trays should be at least three and a-half inches deep.

These trays may be piled in the cellar in vertical piles, the bottom of one tray serving as a cover for the one below it, as shown in the illustration:



Such trays may be made in the winter season, and be ready for use at the busy season when they would have a ready sale.

LOW LAND FOR APPLE TREES.—A writer in the *American Garden* claims that low land, naturally well drained, is best adapted to favor strong growth and fruitfulness of the apple and pear. The arguments are based upon the calculations of Prof. Burrill, of the

University of Illinois, who states a good sized apple tree gives off the amazing amount of 250 gallons of water per day. To supply this, it is evidently necessary for the roots to be in land where the strata fetch the water near the surface. So situated, the writer claims that the apple and pear trees are more vigorous, fruitful and healthy than when grown on high and dry lands.

Grass and weeds steal the moisture, and hence should be kept down by cultivation until the shade of the trees is sufficient to check them and counteract their effects.

Hardy Fruits.

Whitney's No. 20.—Mr. D. B. Weir, of Illinois, writes in the same Journal of this apple tree, that it is one of the finest of small ornamental trees, perfectly hardy to the far north. It is a pretty thing the year round, clear and bright-looking in winter, with its cone-shaped head and smooth trunk. Its flowers are large and handsome, followed by large, luxuriant foliage, and then in early autumn covered with its ropes of cherry-red cone-shaped fruit, one-third larger than the well known Transcendant Crab, with the color and shape of the Hyslop. It is indeed a rich thing. Its fruit is really a good table apple, and the handsomest of the handsome, the first best for the kitchen. Every man in Dakota and Canada should plant twenty trees of the Whitney for use, and every other man a few for use and ornament.

Blackberries.—The same writer does not favor planting the hardy varieties of blackberries for the North-West. Even the so-called iron clads winter-kill, and must be protected. And since it is as easy to protect one variety as another, he advises planting the best and most productive varieties only, and covering them every fall. This can be done thoroughly, it is claimed, at about three dollars per acre.

Transplanting Trees.—Mr. D. S. Troy, in *Scientific American*, says that one of the most important precautions in transplanting a tree is to have it in the same position as to the points of the compass as before removal. Nature accommodates itself to circumstances, and the difference in the development of the north and south sides is obvious. If the south side of a tree is turned to the north, death is almost as certain as if the roots were turned toward the sky.

We are not at all convinced by Mr. Troy's arguments. When the writer was engaged in the nursery business, a buyer who was possessed with this notion, once marked every tree before digging it, that he might plant it in the same relative position. We looked upon it then as a silly superstition, and have never yet been convinced to the contrary. But if any of our readers have any items of experience or observation to give under this head we will be glad to receive them.

Paris Green a Safe Remedy for Codling Moth.

Prof. A. J. Cook, says in the Report of the Wisconsin State Horticultural Society, on this point. But what of the danger of using such virulent poisons on our fruit? Let me say that I have considered that point most fully. I have called in the aid of the microscope, and the chemists' reagents, and both have said, "No danger." I have used fruit thus treated now for seven years, and have no fear of poison. When the chemist's delicate tests can find no sign of arsenic, when the sharp eye of the microscope sees no trace of the poison, nor can find any trace for weeks before the fruit is to be used, I feel that I can safely use and recommend these arsenites in this warfare.

The Shiawassee Beauty.

President F. E. Lyon, of Michigan, on his return from Boston paid a visit to Mr. Charles Gibb, of Abbotsford, P.Q.

He found this section largely devoted to apple culture, the principal variety being the Fameuse, of which Mr. Gibb has extensive orchards. He has also a large number of trial plantations of fruit and forest trees, and of ornamental shrubs.

Referring to the race of apples, of which the Fameuse is a type, he mentions the Shiawassee, as a case in point. It was grown from seeds of the Fameuse in Oakland county, Michigan, some thirty or forty years ago, and the tree was transplanted to the neighboring county of Shiawassee, whence its name. It was introduced to the public by Mr. Lyon.

QUESTION DRAWER.

Profits of Fruit Culture.

6. Can a good living be made out of fruit farming on a moderate scale, and with a very limited capital? I have a good salary at office work, and would not wish to run in debt. J. A. H., *Toronto.*

We cannot too severely condemn the practice of some journals, especially some of those which are published by men who have fruit trees and other nursery stock for sale, of continually setting forth the gilded side of fruit culture, representing the enormous profits of an acre of strawberries, or of an orchard of peach trees, and never setting forth the dark side, the difficulties, the disappointments, and failures so continually besetting even the most skilled and experienced fruit-growers. How often does an untimely frost, or an adverse season, cut off the profits expected from a whole season's industry!

No. Speaking from an experience of twenty years in fruit culture, in one of the very best sections of Ontario, we would not advise any man with a very limited capital, no experience, and no knowledge of the business, to leave a good salary, and to engage in fruit culture for a living. And yet the writer is passionately fond of his chosen occupation, considering it one of the most delightful that can be selected, and he has entire confidence in the ultimate success and prosperity in every fruit grower who understands his business, and follows it with patient industry.

The Pear Blight.

7. Of 130 pear trees of various kinds, 25 years planted, I have left only Bartlett, Louise, Flemish Beauty, Beurre Diel, and White Doyenne which have escaped blight. Have others similar experience? Blight occurs after heavy rains in July and August, hot sun causing fermentation in the superabundant sap.—John McLean, *Owen Sound.*

The kinds you mention are less subject to blight than some others, excepting the Flemish Beauty, which is with us as badly affected as any variety. Clapp's Favorite, Rostiezer, and Howell have also proved with us remarkably exempt. The blight is not caused by fermentation of the sap, but by a minute living organism called Bacterium, which is so tiny that it can only be seen by the aid of the most powerful microscope. These retain their vitality from year to year, even in a blighted limb. They float about in the atmosphere, and find easy access to the sap through the succulent growth of the pear after such heavy rains as you mention in the hot season of July and August.

The Clinton Grape.

8. Are you not a little astray about the Clinton Grape? I have always understood that it was a pure Riparia, and not a cross between Riparia and Labrusca as you say in Oct. No. 87.—B.

Our statement was based upon the authority of Mr. P. V. Munson, of Dennison, Texas, 1st Vice-President

Am. Hort. Soc., who defends his position in the following letter just received from him.

SIR,—In reply to your favor of November 28th, my opinion is that *Clinton* Grape of the Northern States (first brought to notice, in N. Y., I believe) is a natural hybrid between the two species, V. Labrusca and V. Riparia. My judgment is based upon botanical characteristics of the variety itself, and that its pure seedlings sport in the two directions, sometimes producing individuals which are decidedly Labrusca-like, at others, greatly like Riparia. The Clinton itself frequently shows on well developed canes, *continuous tendrils* (a Labrusca characteristic), and the seeds are much more like Labrusca than Riparia. The shade of green in the leaf, the shape of leaf, erect stamens, etc., pulp of berry, size, etc., clearly point to other blood than Riparia, and that in every case Labrusca, as the only other species in that region of country which could impart such characteristics. Truly,

T. V. MUNSON.

Vitality of Seeds.

9. Would you please give a list of seeds showing their respective vitality.

THE following list is given our readers on the authority of the *Rural New Yorker*, as showing their respective vitality.

	Years.		Years.
Artichoke ..	5 to 6	Onion	2 to 3
Asparagus ...	2 to 3	Parsley	2 to 3
Beans, all kinds	2 to 3	Parsnips....	2 to 3
Beet	2 to 3	Pea	5 to 6
Broccoli	5 to 6	Pumpkin ..	8 to 10
Carrot	3 to 4	Rhubarb....	3 to 4
Cress	3 to 4	Squash	8 to 10
Corn kept on the cob....	2 to 3	Lettuce	3 to 4
Cucumber ..	8 to 10	Melon.	8 to 10
Egg plant....	1 to 2	Mustard . ..	3 to 4
Endive.....	5 to 6	Okra	3 to 4
Leek	2 to 3	Spinach.....	3 to 4
Cauliflower..	5 to 6	Tomato.....	2 to 3
Celery	2 to 3	Turnip	5 to 6
Chervil	2 to 3	Pepper.....	2 to 3
Corn salad ..	2 to 3	Radish.....	4 to 5
		Salsify.....	2 to 3
		Lavender ..	2 to 3

Anise.....	3 to 4	Sweet marjoram	2 to 3
Balm	2 to 3	Summer savory	1 to 2
Basil	2 to 3	Sage.....	2 to 3
Caraway....	2	Thyme	2 to 3
Coriander...	1	Wormwood..	2 to 3
Dill	2 to 3		
Fennel	2 to 3		
Hyssop.....	3 to 4		

Fertilizers.

10. What is the value of swamp muck ashes for strawberries and grape vines? Also, I have quite a quantity of swamp marl, it looks like lime, and seems full of small shells—some like pin heads. What is the value of it for strawberry plants and grape vines, and what kind of soil is it best for?

REPLY BY PROF. PANTON, GUELPH, ONT.

ASHES from swamp muck, likely contain considerable potash, a very important ingredient in plant food.—It enables the Chlorophyll of the leaves to perform its functions and thus become an important factor in plant growth. As the plants referred to (strawberries and vines) have much foliage, I think an application of these ashes would be followed by good results. 2. The deposit referred to is marl, quite common in many parts of Ontario. It contains from 70 to 80 per cent. of lime in the form of calcium carbonate, sometimes small quantities of phosphate of lime, and also some iron, but its chief use is as a lime fertilizer.

Applied to heavy soil it makes it more workable by giving lightness and looseness to such. It serves as food directly, and indirectly by rendering available organic compounds in decaying vegetation.

Best suited for heavy clay lands, on which it may be applied by the waggon load.

As a special fertilizer for the plants named, I cannot say that it possesses great value, but as referred to on heavy soil would effect a good physical change, and be followed by favorable results to any plants growing upon it.

If the bed of marl is lying low and water-soaked (a common condition, its

should be dug out and exposed to the weather.

The fall is the best time to do this, when it may be left in heaps and by spring it will be thoroughly pulverized and ready for application.

Transplanting Evergreens.

11. Would you kindly let me know, as nearly as possible, the exact time for transplanting Pine, Spruce, and Cedar? A SUBSCRIBER, *Montreal, P. Q.*

THE month of June is usually considered the most favorable time, because then the evergreens are just about to push out new growth; but in our experience the month of May is better in Canada, in order to get the trees established in their places before the drouth of summer, and to have the earth settled about their roots by the spring rains.

Yield of Grapes.

12. What is the yield per acre in the Grimsby section? Some extravagant statements were made at the time of the annual meeting.—J. C., *Aultsville, Ont.*

THE number of pounds depends upon the variety. The Concord takes the lead in quantity. In our own vineyard, we average about 20 lbs. per vine, and from three to four tons per acre. Mr. J. R. Pettit, a neighboring vineyardist, has an exact acre of Concords, planted 8x10, and the last season marketed by actual count three tons and a half. The largest yield of any one vine was 25 lbs. His Rogers 15 are planted 10x16, and the largest yield off one vine was 36 lbs. He thinks the latter paid better than Concords, as they netted him 4½ cents per lb., while the Concord only netted him 2¼ cents per lb. His Wordens did the best, yielding as much per vine as his Concords, and netting him 5 cents per lb. Mr. A. H. Pettit has also an acre of Concords planted 8x8 feet apart. At the age of four years he had the most remarkable yield of ten tons of grapes! and, one season since, he gathered eight tons.

Apple-Trees from Cuttings.

13. An English paper says: Cuttings of the matured wood of any healthy and fairly vigorous-growing kind of apple will strike readily in the open ground, and in a short time commence to bear fruit exactly similar to that produced by the parent plant. This mode of propagating apple and other fruit trees is now attracting much attention, especially on the continent, and admirable results are said to be obtained in this way.

If so, why go to the trouble of grafting? J. C., *Aultsville.*

ONLY under the most favorable conditions will the apple cuttings strike readily in the open ground. The professional gardener, in the moist climate of England, may have no difficulty, but the amateur, in the dry summer of Canada, would fail. The currant, gooseberry, grape, quince, etc., will grow easily from cuttings, if they have first been buried until the cut has callused; so will some varieties of pears especially the Leconte and Kieffer.

Golden Queen.

14. Is the Golden Queen Raspberry perfectly hardy.—J. L. THOMPSON, *Toronto.*

As far as it has been tested in Ontario, the evidence is in its favor. Mr. T. C. Robinson has successfully grown at Owen Sound, and therefore it should do well at Toronto. It is among the plants for distribution next spring to be tested by the members of our Association, and we shall soon hear reports concerning it from all parts of Ontario.

Grape Syrup.

15. I wish to make grape syrup. Can you suggest how to do it on a tolerably large scale, say 60 gallons at a boiling? I am told maple sugar is sometimes boiled down in large evaporating pans. Would the same answer for grape juice? If so, I should be glad of information how to do it. Can you tell me of any firm who makes them for sale? Is there a large demand for grape syrup?—A POOR VINEYARDIST.

WE have referred your question to several authorities to reply, but so far without success. Has any reader experience to offer?

N.B.—Want of space compels us to lay over several replies to questions until March No.—ED.

OUR MARKETS.

PHILADELPHIA.

MESSRS. PANCOAST & GRIFFITH write under date of January 5th.

Our market is recovering satisfactorily from the usual holiday lull and quotations below are well maintained. APPLES are in good demand and *choice stock* is *firm ; fine red fruit* will command *outside prices*. We quote :—Spitz, $3.25 to $3.50 bbl. Baldwins $2.25 to $2.50. Greenings $2.00 to 2.25. Mixed cars prime winter fruit $2.00 to $2.25. Common cooking lower. CRANBERRIES—Are inferior supply for the season and barely steady. Dark Jersey $3 00 to $3 25 per crate ; light Jersey $2 50 to $2 75. POTATOES—of good quality are in very light supply and all the *sound desirable table* stock offered *finds ready sale* at *outside prices*. Poor and unkeeping qualities not wanted. Rose, Burbanks, Pearless and White Star 75c to 80c per bbl, (60 lbs.) Hebrons, 73c to 80c., mixed cars somewhat lower. ONIONS—are mostly inferior and such are dull ; while choice stock commands full prices, $3.00, $3.25 bbl. ; 80c to 90c. bushel. CABBAGE—Scarce and wanted $10 to $13 per 100. If any margin for you please ship ; will keep you posted if you desire it.

MONTREAL.

APPLES—The local market continues very quiet. Holders still complain of the poor quality of some of the stocks in store. Several cars have been offered Montreal firms from the West, but they were not taken. We quote prices here at $2.50 to $3 per bbl., for round lots, and at $3.50 to $4 for selections of single barrels. EVAPORATED APPLES—A few enquiries have been received from the Lower Ports, and we learn of sales of evaporated apples at 10 to 10½ in good sized lots in 50 lb boxes. Dried apples are quoted at 6c. to 7c. CRANBERRIES—There is a fair business at $8.50 to $10 per brl — ONIONS—Spanish onions, $3.75 to $4 per case ; Montreal reds, $3.50 per brl. CABBAGES—The supply is fair and prices remain steady at $3 to $5 per 100. POTATOES—Business continues quiet at 70 to 75c. per bag for car lots, and single bags at about the same price *Trade Bulletin.*

The Glasgow Market for Grapes.

An interesting experiment has been made this year by some Grimsby and Winona grape growers, in shipping grapes to Glasgow, Scotland ; 150 baskets, or more, were shipped, per steamer Colina, to Simons, Jacobs & Co., Glasgow, who received them in excellent condition, and sold them at public sale, per catalogue, on the 27th of October. The ten pound basket with wooden cover was the package used. The varieties were Concord, Niagara, Isabella and Catawba, and several Rogers. The white grapes from which the most was expected, sold the worst, as they are at a discount in that market, even bringing the shippers in debt for charges of cartage, etc. The prices at which the grapes were sold were about as follows : Niagara, 1c. per lb. ; Concord, 5c. ; Rogers varieties, 5-6c. ; Pocklington, 1½c. ; Catawba ; 7-8c. The net proceeds of the whole lot was only $15.40 ! It is evident that it is useless to send white grapes to the British market ; but a profitable trade may possibly be worked up in the black varieties. The following letter accompanying the account sales will also be of interest.

GLASGOW, 28th October, 1887.

SIR,—We regret to think that the interesting experiment that you have made in shipping grapes to this country has not been attended with perfect success. The whole of the fruit by the Colina arrived in tolerably good form, and all the black varieties were favorably received by the buyers, but there is no demand in this country for the Niagara or any other white grapes, as we have a superabundance of excellent green grapes from Spain. These latter are sold in the streets at from three to four pence per lb., and we send you a catalogue of the sale of 11,000 lbs., at prices varying from $1.00 to $4.80 Each barrel contains from 40 to 55 lbs , and the difference in price is caused by the keeping quality of the fruit, some of which will last as long as next May.

If you could make a few more experiments with black grapes, we should then be in a better position to say whether this business could be relied on with any degree of safety.

Yours faithfully,

SIMONS, JACOBS & CO.

OPEN LETTERS.

Profits of Forestry.

SIR,—I think I can prove that if I had planted one hundred acres of timber when you did the fruit, I could now buy up any three orchards. A factory here will take all ash and locust at six inches in diameter, and that will grow in a very few years. I fee sure that I can start now, and raise a good many crops of such timber in an ordinary lifetime. T. M. GROVER,

NORWOOD, ONT.

Fruit at Arnprior.

SIR, I have taken your valuable paper now three years. The first year's plant (a Fay's currant) died. I received one the next year along with the Marlboro raspberry. It has made rapid growth, but has not borne. I have four kinds of red currants, Fay's, Moore's Ruby, Raby Castle and Cherry, none of which bore any to speak of last year. The Marlboro is a good bearer, and a few days earlier than the Cuthbert. They have all to be laid down in the fall. My geranium did well and was much admired. Wishing your valuable paper much success in the coming year.

WM. FARMER,

ARNPRIOR, ONT.

Fruit in Grey County, Ont.

THE Deutzia I received in 1884, seems to be too tender for this part, even with some protection in winter; it has never grown very strong. The Russian apple tree I got in 1885, was killed almost to the ground, although some grafts set in other trees, were uninjured. This year the Dewberry made a feeble attempt at fruiting.

ROBERT SCOTT,

HOPESVILLE, ONT.

Fruit in Russell County.

SIR,—The Prentiss grape, received in 1883, was killed the first winter. The Canada Baldwin, received in 1884, has a good constitution. The one I got had ill-usage from geese and sheep, but it is growing well. Fay's Currant, Yellow, Transparent and Russian cherry, are all doing well.

I may add, that the Fameuse, McIntosh Red apples, have been killed, back with me. Of grapes, the Delaware, Salem, Agawam Jefferson, Concord, Worden, Champion and Martha succeed well. In apples, the Haas is the best grower, and hardy so far; the Walbridge is a good grower and hardy; the Duchess, Wealthy and Scott's Winter are good; the Peach apple is hardy, but the Baxter and the Gideon do not seem to be so hardy. The Cuthbert raspberry is tender, but the Turner is good, hardy and productive. ANDREW WALKER,

METCALFE, ONT.

Fruit at Ayr.

SIR,—My pears did well last year. I had 50 barrels, all good Flemish Beauties. They are on sod, and pastured; no blight. Clapp's Favorite did well, it is a good pear to eat, and large. I had a large crop of apples, but there is no sale around Ayr for summer apples.

Grimes' Golden did well. It is a good apple, and a healthy tree. I allowed 11 pigs, 60 turkeys, 50 ducks, and 150 hens to run all summer in the orchard. The pigs did well; when killed the weight was 300 lbs. on an average. Yours, etc.,

FERGUS ANDERSON.

AYR, ONT., *Dec., 1887.*

REVIEW.

Reports.

FORESTRY REPORTS, 1885 and 1886. Compiled at the instance of the Government of Ontario. By R. W. Phipps, Toronto, Ontario.

We would recommend every reader of this journal who is at all interested in the important subject of forestry, and in the preservation of our native forest trees, to apply to Mr. Phipps for a copy of these reports, and study them carefully. A valuable feature of the report for 1885, is a classified list of native Canadian trees, with a brief description of each. That of 1886 contains a statement of the amount of firewood still standing in older settled Ontario; references to the pine forests of Ontario, describing present method of management, and suggestions of possible improvement; information concerning forestry in other countries; and recommendations for future action. We hope to have occasion to draw upon the information here given for the benefit of our readers.

HISTORY OF MICHIGAN HORTICULTURE. By President T. T. Lyon, 1887.

A copy of this work has been sent us by Secretary Garfield. It is a compact volum

of 412 pages, giving abundance of matter of great local interest, such as climatology of the State, history of discovery and occupation, and a history of its horticulture. A local history of the eighty-three counties is then given separately.

Bulletin No 31, Agricultural College, Michigan being the Annual Report of the Professor of Horticulture and Landscape Gardening to the President of the College for the year 1887.

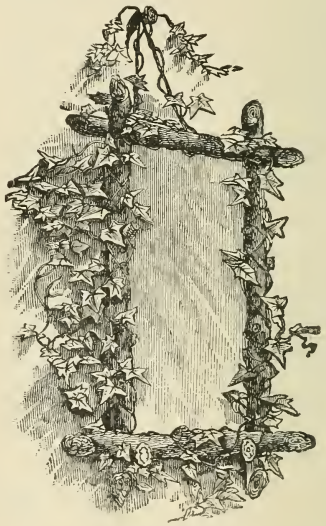
This is a work of 94 pages, and contains a carefully classified synopsis of the known varieties of cultivated tomatoes, peppers, onions and strawberries ; besides numerous miscellaneous notes.

Bulletin No 2. Central Experimental Farm, Ottawa. This is a pamphlet of eleven pages, showing the progress of the work at the farm, especially with reference to the testing of seed given for suitability to the various parts of Canada. A large collection of large and small fruits, and of forest trees is being made for testing, and from this department of the farm we hope for many items of special interest to our readers.

THE HOME.

Ivy For Picture Frames.

Ivy is one of the best plants to have in the house, as it bears a large amount of neglect and abuse, and gratefully repays good treatment. It is not rare to see a pot of ivy placed where it can be trained around picture frames or mirrors, and thus border them with living green. A good plan is to dispense with the pot, or rather have a substitute for it, which is kept out of sight. Our illustration, Fig 1, shows a picture frame wreathed with ivy after this method Only a good-sized picture or mirror can be treated in this way, and as such are usually hung so that the top of the frame leans forward, the space between the frame and the wall is available for the receptable for the plant. A pot or pan of zinc, of a wedge-shape, and size to suit the space between the frame and the wall, can be made by any tinsmith. This is to be hung against the wall so as to be quite concealed by the picture, and the ivy tastefully trained over the frame. A rustic frame is better suited to this purpose, as it not only affords better facilities for attaching the stems to the frame, but its style seems better adapted to this kind of decoration than more pretentious ones. Still, a gilt frame may be made beautiful in the same way. There is only one precaution to be used, viz.: Not to hang such a frame over the fire place, for the combined heat and dust would soon destroy the plant. Let it hang so that it may face a north or east window. Don't forget the water ; the pan holding the plant is out of sight, and, therefore, should be kept in mind.



Ivy For Picture Frames.

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STECHER LITH. CO. ROCH. N.Y.

PRUNUS TRILOBA.

FOR CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 3.

LAYING OUT A LAWN.

JUST as it would be in poor taste for every man to build his house in imitation of his neighbor, so would it present a tedious monotony were every yard to be planned after the same pattern. It is obvious, therefore, that only a few general hints are within our province.

One of the first things to be done, after a yard is generally levelled, is to mark out the foot-paths and the carriage road. The old plan among most of our early settlers was to leave these to be worn out in the turf by constant use, and usually led by a straight line from point to point; and frequently a long straight walk was made across the lawn from the front gate to the hall door. An easy graceful curve in the approach, as shown on page three, is in much better taste, leaving the fine lawn in front unbroken. For this plan the gate needs to be placed somewhat to one side, and in the direction most frequently travelled.

A good method for marking out a pathway was given in *Vick's Magazine* some years ago. It was to set up little sticks along the line designed for the road, changing them until the curve is made that seems graceful and pleasant to the eye, as shown in Fig. 18.

Fig. 18.

Unless these roadways and paths are properly made they will be a source o constant annoyance on account of grass

and weeds. The proper method is to remove the earth to a depth of about a foot and a half, and then fill up one foot of this with broken stones, finishing with five or six inches of clean gravel. This is well shown in Fig. 19, which we have had reproduced from the same source as the other.

A border of nice sod, about six inches in width, is then laid in such a way that its surface is a couple of inches above the walk and about on a level with the adjoining soil.

Fig. 19.

The next thing in order, after planning these pathways, and seeding the lawn, will be the planting with groups of shrubbery and ornamental trees. In this there is room for endless study, and for many blunders. Nothing is more common than to see a yard over full of trees, and these perhaps planted in rows across its whole extent. Another common fault is in having too many trees of any one kind. So much has the Norway Spruce been lauded of late years that in many sections it is almost the only evergreen used, and disagreeable monotony is the result. The writer is one of those who has this tree in too great abundance, and must cut them out by the dozen to make room for others, for variety's sake. In other places the Lombardy Poplar is in excess, and lends a stiff formal appearance to the surroundings. It is a tree that should be planted very sparingly indeed.

One very important point in planting trees and shrubs in the vicinity of a home, is the careful disposal of them in such a manner as not to conceal distant views, or objects of interest. There may be within sight a beautiful lake,

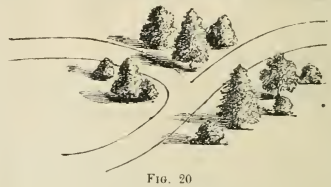


Fig. 20

or river; a mountain, or a valley; or the spires of a distant city, and it would be in the worst possible taste to hide such a scene. This point is well illustrated in our engraving, which represents the home of Mr. N. P. Bailey, of Harlem, N.Y., where the eye may be charmed with the beautiful prospect lying before it, of one of the most picturesque valleys in the world, through which flows the majestic Hudson. We cannot all have a Hudson river prospect, but very often a distant view of great beauty is gradually being obscured by the increasing growth of trees unwisely placed.

For the most part, both trees and shrubs should be planted in groups at entrances, at curves of the walks, in corners, and on sides of the yard, but some particularly choice specimens may be placed in conspicuous positions. The Scarlet Oak, the Cut-leaf Weeping Birch, the American Elm, all make beautiful single specimens where room for them can be spared. The Oak leaved Mountain Ash, shown in Fig. 25, is also a pretty lawn tree for small lawns, growing only to a height of twenty or thirty feet. A colored

Fig. 21.—Home of Mr. N. P. Bailey, Harlem, N.Y.

plate of this tree appeared in Vol. VI. of our journal, when Mr. Beadle spoke of it as follows:—"Having regard to the neat compact form of the tree, the contrast of light and shade on its surface, the corymbs of white blossoms in early summer, and clusters of red berries in the autumn, we think we do not err in regarding it one of the finest of our lawn trees."

The grouping of trees and shrubs for effect, and to show them to best advantage is a subject in itself and cannot be touched upon in this article. We will simply add a list of some of the best hardy ornamental trees and shrubs, leaving greater details for some future occasion.

Trees:—Cut-leaved Weeping Birch; Catalpa Speciosa; White, Red, and Scarlet Oak; American White Elm; Weirs Cut-leaved, Norway, Sugar, Silver, and Purple Maple; Flowering Thorns; Austrian, Swiss Stone, Scotch, and Austrian Pines; Norway and White Spruce; the Red Cedar; Nordmann's Silver Fir; and others.

Shrubs in order of flowering:—Golden Bell; Japan Quince; Spiraea Prunifolia; Lilacs; Silver Bell; Spiraea Van Houtti; Syringa; Dwarf Snow Ball; Deutzias; Altheas, single and double; Large flowered Hydrangea; Purple Fringes; Prunus Pissardi; Purple-leaved Berberry and others. Some such list as this would give a constant succession of bloom, or display of foliage throughout the summer.

Our colored plate of this issue is a faithful representation of one of the most beautiful of flowering shrubs, and which should by all means be added to the above list. It is Prunus Triloba, the Double Flowering Plum. Its relative, the Dwarf Double Flowering Almond, though sometimes yielding a beautiful display of flowers, has on the whole proved itself too tender and unreliable to be recommended in Canada. But this species is hardy, and at the same time far more desirable. It is a native of China, and though we are not very partial to the Chinese in general, we can heartily welcome this foreigner. Last May it flowered for the first time on our grounds; and charmed us with its beauty; its large double flowers, of a delicate pink color, were closely set upon the tender branches as shown in the picture, and were so large they might be compared to small roses, many of them measuring an inch in diameter.

PLAN OF GREENHOUSE COSTING LESS THAN $10.

BY J. P. COCKBURN, GRAVENHURST, ONT.

THE following is the plan of a hot-bed and greenhouse combined, which I have used as an auxillary for several years with great satisfaction. The size is eight by twelve feet inside measure and has capacity enough to grow all the seeds and plants required on most grounds, with plenty of room for propagating any growing flowers and bedding out stock, and spare vines and shrubs.

Geraniums, fuchsias, and all plants that have grown scraggy during the winter, if cut down and repotted re-

cover rapidly and spring into new life giving plenty of thrifty shoots for cuttings, which root rapidly in a house of this kind.

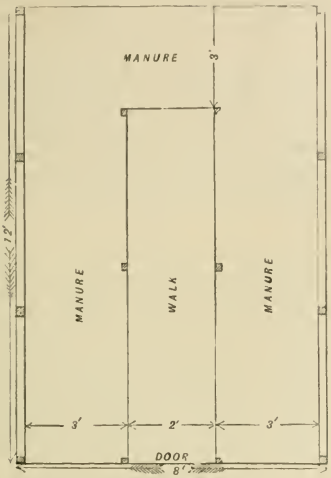


Fig. 22.—Plan.—Scale, 4 Ft. to 1 Inch.

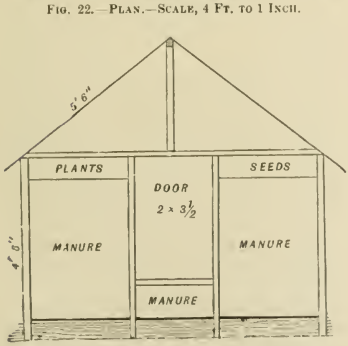


Fig. 23.—End Elevation.

A large supply of plants can be grown for both kitchen and flower garden at a nominal price.

Any lady can care for the plants in this house and derive much pleasure and profit in watching the progress of the little pets.

The size given is most economic, because the greater quantity of manure got together the more lasting and certain will be the heat. The bunks for manure are not too wide for convenience of handling stock, which should all be grown in boxes of pots, for the convenience of moving it about, as desired. The walk should be filled with manure to a height that will only allow the occupant head room in the centre, this can be covered with rough lumber. A space two feet square should be left inside the door to step in, as the door is too low to walk in upright. The bunks should be filled to within eight inches of the top with suitable manure, and this covered with earth to a depth of three or four inches, spread evenly over the whole surface.

The south side of an out-building is the most suitable site, as in this position it is shielded from the cold north winds. The roof should contain at least sixty feet of glass, four sash of about three by six feet will be sufficient. I use the storm sash from my new dwelling and find these answer as well as sash made for the purpose. The balance of the roof can be made up of inch lumber, and the sash may be placed eighteen inches from each end, so as to make some shady nooks for plants which prefer the shade. Of course, provisions must be made for ventilation, where necessary.

Boxes, one foot wide and two feet long and four inches deep, are suitable for both seeds and cuttings, the former to be filled with good garden soil, the other with clean sand for cuttings; bits of sod four inches square are best for starting cucumbers, melons and such plants as do not transplant well, but they must be moved occasionally to prevent their roots from descending to the earth below the sod, and should be transplanted before the third leaf appears.

RAMBLES AMONG FRUIT GROWERS.—IV.

THE WESTERN NEW YORK HORTICULTURAL SOCIETY

THIS old and respectable Society met at Rochester on the 25th and 26th of January. The writer, as a representative of our Association, was most cordially received by such men as W. C. Barry, Charles Green, S. D. Willard, J. S. Woodward and others.

An interesting feature of the occasion was a presentation to Mr. P. Barry, the honored president, of a beautiful cup as a mark of the esteem in which he was held by the members. It was unfortunate that he could not be present owing to ill-health, but his son, Mr. W. C. Barry, responded in suitable terms to the presentation.

The following are a few among the items of information which we gleaned from the meeting.

CHERRIES.

Which are the most profitable for home use and for market?

Mr. Willard—I would name the Montmorency as the best acid cherry—not the large variety, but the Montmorency Ordinaire. I would also name the Montmorency as the best for home use. It is larger, better, and more productive than the Early Richmond.

For a dark, sweet cherry, for home use, I would place the Windsor ahead of all others.

For an acid market cherry I would name the Montmorency and English Morello. The Montmorency hangs long on the tree and the birds do not injure it.

For a sweet cherry for market, I would name the Windsor as the most profitable.

I shipped some Windsor to Philadelphia last summer and they sold for fourteen cents per lb. The Windsor is also very free from rot.

Mr. Green said a friend had grown the Louis Philippe with great success.

Mr. Willard said Schmitz Biggareau was one of the very good dark sweet cherries which had lately been introduced. The Montmorency is as yet unrivalled for market purposes, often paying at an average of $10 per tree.

PLUMS.

Which are the best varieties for market?

Mr. Willard.—My choice six for market would be (1) Reine Claude, though somewhat tender; (2) French Damson; (3) Quackenboss; (4) Lombard; (5) Bradshaw; (6) Stanton. The latter is productive, late, and of good quality; it has a beautiful bloom, and is about the size of the Lombard.

PEACHES.

Which are the best of the newer introductions?

Mr. Willard said that the Early Rivers was proving itself among the best of the early peaches. Hyne's Surprise from Texas is a fine peach, being of the same season as the Alexander, which it much resembles, but it is a free stone. Stephen's Rareripe is growing in favor, and has come to stay. Cases are known of its being shipped east and bringing $4.00 per bushel. It is a little later than the late Crawford. The Salway ripened a wonderful crop last year, but it has a tendency to overbear. It is in good demand.

The Sturteyvant peach is far superior to the Early Barnard. Mr. Willard would prefer one of them to a half dozen Early Barnard at any time. The Foster is a fine peach, but at Geneva it is a sparse bearer.

FRUIT.

Does the fruit crop pay better than any other crop we can raise?

Mr. Moody, of Lockport, said, "I think the fruit crop is far the most profitable of any crop we can raise. I know an orchard of plums and pears of eight acres, twenty-three years planted, which has produced over $40,000. The Kneffer is a profitable pear; we top-grafted a couple of rows, about 200 trees, in our orchard, and last year, the fourth, we sold the fruit at about $12 per barrel.

Mr. J. S. Woodward. –There is no depth to which a man's depravity wont lead him. Any man whose taste leads him to value a pear which the mice wont eat. I don't know what to think of him

Mr. Hooker, of Rochester.—I think there are other crops which can be raised to greater profit than the fruit crop; for instance, the growing of nursery stock and vegetable gardening.

Mr. Crane, of Lockport.—I have received more money from an acre of grapes than any one can show from an acre of apples.

Mr. Watson, North Chautauqua.—This year we shipped about 300 carloads of grapes. We think they pay from $150 to $300 per acre on an average.

One gentleman said, I can vouch for the fact that ten acres of onions yielded me about $1,300 in one year!

Mr. Rice said that in one year he had received $1,900 for the produce of nineteen acres of orchard.

Mr. Willard.—This has been an off year with apples, yet they have sold for more money than any other one crop per acre. Not twenty five per cent. of growers will cull and pack their apples satisfactorily. A thorough reform in this respect is needed.

Mr. Pearson said, that Seneca Co. had received $160,000 for its fruit crop the past season.

LIQUID MANURE.

Does it pay to use it for fruit trees?

Mr. Dunning, of Auburn.—I have had very gratifying success. I tried it on the Foster Peach and succeeded in getting six bushels of peaches from one good sized tree by its use. Many of the peaches would measure nine inches in circumference.

The manure is taken from a tank kept near the cow stable. The tank is on wheels and can be drawn about to the orchard and vineyard. It consists largely of urine, and water from cow manure.

A gentleman from Michigan had grown Foster peaches eleven inches in circumference by the use of ashes and bone dust.

BARN MANURE.

What is the best mode of treating it after it leaves the stables?

Mr. Woodward.—No man can afford to draw rain water. All manure should be kept under cover, or else drawn out directly to the field as fast as it is made. No man can compost manure so that there will not be a constant loss of manure every day he leaves it in a pile. I make some 1,800 loads of manure each year and always draw it out as fast as made and spread it over the ground at once.

If not prepared to use the manure at once, I keep it covered until wanted, or I compost it in broad flat piles, and cover it with absorbents, such as road dust, muck, straw, leaves, etc.

Our orchards do not get manure enough, so this question is a very important one to the fruit grower.

PEARS.

What progress are we making in pear culture?

Mr. Hooker said that the Saunders remedy had proved very successful in checking the pear blight. The formula was:—one peck of lime, ten pounds of

sulphur, and two ounces of carbolic acid, thinned with water to the consistency of white wash. This is applied to the tree about the 1st of May, and sprayed upon the foliage just after blooming.

Mr. Moody.—The remedy Mr. Hooker speaks of is good. We use it, and have not lost a tree in three years out of an orchard of 10,000 trees.

We use a great quantity of unleached ashes,—4,000 to 5,000 bushels a year in our pear culture.

The varieties are three-quarters Bartlett; a good many Kieffer; Duchess and Clapp's Favorite. We have not been as successful with Anjou as formerly.

Kieffer has paid us better than any other, but how long it will last I cannot say. We spray every year with London Purple or Paris Green.

Mr. Hoag said I never use Paris Green, but keep the bark clean, and cultivate them frequently, thus giving insects no harbor.

Mr. Barry.—As an early winter pear the Anjou is unequalled. To succeed that, I would commend the Winter Nelis. It is now the favourite dessert pear for hotels. The Josephine de Malines succeeds the Nelis and these three deserve the highest praise as the leading winter pears. The Winter Nelis is a regular heavy bearer.

Lawrence is also an admirable early winter pear and would precede the Winter Nelis.

There is no danger of any over production of *choice fruit*. Every person should have fine pears upon his table every day of the winter; and until this is done, fruit growers are not yet doing their duty. You can not get enough of *good fruit*. There is no glut of that, and no fear of there being an over-production. Plant more fruit trees of the best varieties.

Mr. Pierce, of Ohio, said that he could not get perfect samples of Winter Nelis on account of curculio stings.

COLD STORAGE.

Are cold storage houses for fruit a success?

Mr. Moody, of Lockport.—We have a large fruit house, and lately large quantities of ice have been used in it for keeping plums, but it was a failure—fruit kept in it with ice soon decays after removal.—I do not favor the use of ice for keeping fruit.

A delegate from Michigan condemned cold storage with ice entirely. It had been well tested in Michigan.

The meeting lasted two days and was full of life from first to last. A change of name is contemplated making it a State society and looking for State aid, in which case four meetings each year will be held at different places in the State, the annual one continuing to be fixed for the city of Rochester.

MY EXPERIENCE IN FRUIT CULTURE.

BY GEORGE MADDOCK, HAMILTON, ONT.

FOR several years I have been a member of the Association, yet I never wrote a line of my experience in connection with horticulture, or of the lessons I have learned from the experience of others, who, like myself, have profited by reading its welcome pages each month. I am an amateur, and, therefore cannot enter into a long dissertation, but having made my garden my "hobby" and having spent delightful hours industriously developing its usefulness, I feel impelled to say a word or two to other amateurs, as

encouragement to more earnest effort to realize the goal they wish to attain.

Some fourteen years ago I purchased a one-fifth acre lot in the west end of Hamilton, and having built a domicile for my family, I proceeded to plant the portion not built upon. At that time, I may say, I was totally ignorant of the first requisite to become a gardener, and it was only by watching others and never being ashamed to ask for information, that I eventually mastered the rudiments necessary to being called even an amateur. Subsequently I became a member of the Horticultural Society and the Hamilton Society, and was a member up to the time of its untimely death and have been a mourner ever since, as its object was the cultivation of a taste for the beautiful; and the excellence of its yearly display caused an emulation to exist amongst its members and excited their zeal to excel; and that was conducive to more refined tastes amongst the working artizans of the city. My first planting I found in two years had not been wisely done. I had planted standard apple trees which I found likely to be in a short time an incumbrance, I at once decided to tear them up again. One morning after a stormy night I found five dwarf pears killed by fire blight; and I lost two cherries by late frost in the spring. My dependence now rested on my grape vines, of which I had a small but select variety. As these throve I added to them, taking my cue from the experience of the writers in the HORTICULTURIST plus my own; and to-day I have about forty vines including nearly all that are considered worth growing, and last season they yielded me the grand total of 1,200 lbs. of grapes. I have never given them any fertilizer but bone dust, and wood ashes unleached; and I am of the opinion they cannot get anything which will serve them better or make them more profitable.

I have also tried my hand at growing grapes under glass. Having an opportunity of purchasing some old sash cheap, I constructed a cold vinery some twenty feet long, ten feet high at back, eighteen in front and twelve feet from toe to heel, or front to back. I planted in this structure one black Hamburgh, one Muscat Hamburgh, one Muscat of Alexandria and one Golden Hamburgh. In three years from the planting of the young vines, I had a beautiful crop of Muscat and Black Hamburghs, and they were ripening beautifully, when one day I noticed a wasp's nest up under the sash. I tried with a stick to dislodge the "varmint," but it was no go. I bethought me of sulphur. I would sulphur them out. To think was to act. I got an iron pot and put the sulphur in and then dropped an hot coke into the pot, hastened outside and closed the door; in one hour I returned to see the result; the smoke had subsided and I could see inside without opening the door. You can guess what I saw: the labour of three years destroyed with the wasps. Yes, the "varmint" was no more, neither were the grapes or the vines. Nothing daunted, I started again and planted a Muscat of Alexandria and one of Ricketts, the Welcome. The Muscat died the second year whilst the Welcome thrived and made great headway. The first time it fruited I was disappointed in the size of bunch and berry, but I must confess the flavor was there, and such a flavor! I have never tasted the like; it was, to use a plagiarism, like the nectar of the gods. The second year of its bearing it mildewed badly, and I lost patience with it and neglected it, hence the result was I have not been able since to flavor this well-named, beautiful grape. In outdoor grapes I may say, I have been fairly successful. I grow Rogers 3, 4, 9, 15, 19, 22 (Salem), 30, 33, 41, 43, 44, Delaware, Concord, Creveling, Eumelan, Isabella, Clinton (for wine), Adirondack, Hartford Prolific, Lady, Pocklington, Worden, Niagara, Jefferson, Lady Washington, Moore's Early.

Jessica and Catawba. Of course, some of these varieties I have duplicated; I have three Clintons from which I picked this year 700 lbs. of grapes. I may incidentally remark just here that by reason of the great number of grape growers in this neighbourhood the fruit has become a glut in the market, even when choice grapes are offered for four cents per pound. In consequence I have turned my grapes into wine, that is the Clintons, Delawares, Concords, Isabellas and Catawbas, for which I have found a ready sale.

I grow a few plum trees, and in this fruit I have been well repaid. Originally, I planted common blue plum stocks, and after one year's growth I budded Victoria, Egg and Lombard on the one stock, and during the past year it was a grand sight to see the full crop, three varieties on one trunk, about three bushels in all.

Having a few dwarf apples, I selected a Rhode Island Greening and after removing some of the centre limbs I budded it with Duchess of Oldenburgh, and the result during the past year was a magnificent crop of fruit—the Duchess being a most beautiful purple with an indescribable bloom. Whilst they were ripe, the fruit of the parent tree was but the size of walnuts, and green, and afforded a wonderful contrast to the admiring observer.

I have grown a few currant and gooseberry bushes. The currant is subject to the borer, whilst the gooseberry is often stripped by the green caterpillar. The only remedy for which is hellebore sprinkled in the early morning whilst the dew is on the leaves.

I have used Paris green, in the proportion of one tablespoonful to a patent pail of water, and squirted on my apple and plum trees—a good preventative against the curculio and the other pests which infest our garden. Another preventative is fowls, if they be allowed to run at large they destroy an incredible number of grubs and insects. In closing my rambling remarks, I would express my pleasure at the improved appearance of our journal and hope to hear of a more extended circulation.

FRUIT NOTES.

BY G. C. CASTON, CRAIGHURST.

I HAVE just received copies of the HORTICULTURIST in its new dress, and am very highly pleased with the improvement, and hope the efforts of the Executive Committee will be appreciated as they deserve. All the premiums sent out by the Association to this locality have done well, or at least nearly all of them. The Lucretia Dewberry was the only thing that failed with me. There is a tree of the Catalpa Speciosa growing in the garden of Robert Minty, Esq., of this place, which was sent out about three years ago. It is considered quite a curiosity by those who saw it growing last summer; the immense leaves, like those of some rare tropical plant, measuring ten inches in width. It is now about five feet in height, and seems to stand this climate all right.

PRUNING.

Opinions differ as to the proper time to prune our trees and vines. My experience is that for fruit trees from the 15th to the 30th of June is the proper time. I find that the wounds never bleed and the wounds grow over quicker than if done at any other time. I have tried fall and winter pruning, but would never do it again. I found that if pruned in winter, many of them would bleed all the next summer. For grapes, I prune in November, shortly after the frost has killed the leaves.

GRAPES.

I find it easier to grow grapes in this locality than a good many varieties of apples. They are almost sure to grow if properly cultivated, pruned, and always covered in winter. The trouble most to be feared is fall frost; but if we can get something as hardy, as prolific and as free from disease as the Old Concord, and that will ripen two or three weeks earlier, it would just fill the bill. The Champion comes early, bears pretty well, and that is all that can be said for it. Moore's Early comes in about the same time as Champion, is of pretty fair quality, but a poor bearer so far with me. There are several varieties which I have that ripen ahead of the Concord, but none of them comes near it in productiveness.

APPLES.

The Ben Davis is an apple we would like to grow here on account of its grand keeping qualities, abundant and early bearing, and fine sound appearance in spring. A few years ago it was in high favor and considered hardy enough for this country, but the terrible winter of 1884-5 left very few of them living. I would advise top-grafting them upon hardy seedlings as the Talman Sweets. I have tried it, and they bear immense crops, when top-grafted on hardy stock. The Wealthy is considered next to the Duchess in point of hardiness, but opinions differ as to the length of time it will keep. I have not had it long enough to venture an opinion. The Pewaukee is going to be a favorite here and keeps well, and I think would rank next to Wealthy for hardiness. The Red Pound or Simcoe is one of the finest apples in Canada, and perfectly hardy here. The tree is an upright grower, an early though not very abundant bearer; fruit large, red, good for desert, one of the best for cooking, and keeps till March or April. I am satisfied that the apple that will keep till spring of a good color, and that is hardy enough to stand our climate, is the one for profit. I expect that we will get among the Russian varieties something yet that will excel in this respect.

I believe that it is to the Russian apples we must look for the material to replenish our orchards, and to plant new ones; for as the country gets cleared up and the forests disappear, we will require hardier fruits to take the place of the old ones.

A LARGE VINE.

BY PROF. J. HOYES PANTON, M.A., GUELPH, ONT.

TO Hampton Court, a few miles out of London, many a tourist finds his way to see the beautiful residence once occupied by the great Cardinal Wolsey and the magnificent park near by.

Not less attractive is the garden in connection with the palace. In this communication I shall refer to but one thing—the vine planted at the extreme part of the garden running parallel with the south front of the palace. It was planted in 1769, and has a circumference of three and a half feet. It was raised from a cutting, taken from a large vine at Valentine House in Essex.

For over one hundred years it has been an interesting object to grape growers and the public who visit the gardens at Hampton Court. It is still luxurious, and at the time of the writer's visit was loaded with luscious fruit. Its wonderful productiveness has been a question of great dispute, and has been attributed to many causes, among others, that of its roots having

found their way to some drain. Some think that its roots are in the banks of the Thames, but a short distance away. The roots are supposed to spread over an area of 726 square yards, so that fertilizers spread on the soil within this space have a very beneficial effect on the vine's growth. Water applied within this area also shows its effects very soon, This would seem to indicate that the theory of the roots reaching the river is erroneous, otherwise drought would have no effect. When the vine is in full growth and the symptoms of dryness are shown on the leaves; as soon as water is supplied the symptoms are subdued and the foliage again assumes its natural green, firm and erect habit. The vine has a glass-house for its own accommodation, the dimensions of which is 2200 square feet, the branches are trained along the top of this for 200 feet and bear in fruitful years 2,500 bunches. The fruit is given to the Queen, who it is said distributes it to the inmates of some charitable institutions. King George III. enjoyed its fruit for half a century. In 1822 the stem was thirteen inches in circumference and branches 114 feet, and in one year produced 2,200 bunches of grapes, each bunch averaging one pound weight. This Hampton Court Black Hamburgh Vine has now numerous offspring in many places, for many at the proper season secure cuttings and from them develop vines.

A PROMINENT AMERICAN HORTICULTURIST.

MR. P. J. BERCKMANS, PRESIDENT OF THE AMERICAN POMOLOGICAL SOCIETY.

MANY of our Canadian readers have long known and honored the name of Marshall P. Wilder, so long President of the American Pomological Society, whose death we chronicled in Vol. X, page 41. We now take pleasure in showing a likeness of his successor, Mr. P. J. Berckmans, who was elected to the office at the meeting last autumn at Boston.

This gentleman is a native of Belgium, where he was born in 1830, and is the son of Dr. L E. Berckmans, an eminent European pomologist. Coming to the United States in 1850 he became interested in the country, and purchasing land in New Jersey remained there some six years engaged in his favorite pursuit. He then removed to Georgia, purchasing the property now so well known as "Fruitland," where he devoted himself to horticultural pursuits with greater zeal than ever. It was he who organized the Georgia State Horticultural Society, of which he has ever since been president, and in 1860 he became a member of the American Pomological Society, of which he succeeded Mr. Charles Downing, in 1871, as chairman of the committee on native fruits.

Considering his liberal culture, his extended experience, and his horticultural knowledge, it is probable that no man in the United States is better fitted to fill this position of President of the American Pomological Society than Mr. P. J. Berckmans, of Augusta, Georgia.

Fig. 24.—Mr. P. J. Berckmans, President of the American Pomological Society.

FORESTRY

WILLOW AND OSIER GROWING.

By Otto Rands, Shelburne.

HAVING an opinion that the cultivation of certain varieties of the Salix, or willow family, viz. :— Willows proper, Osiers and Sallows— would contribute both pleasure and profit to the cultivator, and gardeners can make a good use of not a few themselves, at least, their brethren in Europe do, for tying rhubarb, asparagus, and other garden stuff, in parcels for market. The *Salix discolor* is especially suited for that purpose. If rods are cut in the fall and winter before the sap rises again in the spring, and thoroughly dried, and packed where they will keep dry, they will remain in good condition for years. When required for use, thoroughly soak in water, and they will work tough and pliable, as when green ; so providing a useful material all the year round. But beside this, there is an active demand for considerable quantities of rods for basket-making purposes, both in Canada and the United States, most of which are now imported from Europe, and which could and ought to be grown at home ; and they will grow well on land too wet for other purposes, any land, except clay, gravel, or chalk, will suit them, providing the water level is from twelve to eighteen inches below the surface ; occasional flooding is beneficial, rather than not. I have not yet discovered any native varieties suitable for basket-making ; I therefore imported fifty varieties from England, in 1883, several of which are doing well. In preparing land for an osier ground, it will pay to sub-soil plow or double-dig it eighteen inches deep ; the roots will work better, and you will be able to keep down weeds easier, which must be carefully done, or your crop will prove a failure. Prepare your land in the fall, plant in spring. After leveling and harrowing, prepare sets twelve inches in length, of varieties best suited to soil and purpose ; drive them straight down nine inches into the earth, in straight rows, 24 x 24 or 24 x 12, according to variety and intended use, planting the small varieties closest.

The salix or willow family, consisting of some three hundred varieties, may, for ordinary purposes, be grouped into three comprehensive classes, namely :— 1st, *The Willows proper*, with leaves smooth, almond-shaped, and more or less lanceolate and serrate ; 2nd, *The Osiers*, with leaves soft, white, and downy on the under side, oblong, serrate and undulate ; 3rd, *The Sallows*, with leaves soft, and downy underneath, round, serrate, and undulate. The botanist will divide the three classes into about three hundred varieties, and if you permit a grove of six or eight varieties to stand uncut for three or four years on land in good cultivation, you will soon be able to add new varieties to the list.

Class No. 2, Osiers are evidently intermediate between the willows proper and the sallows, having in some measure, characteristics of both. For basket-making, I do not grow more than six or eight varieties of class No. 1, viz. : *salix kirksia, s. purpurea, s. helix* and *s discolor cuspidata.* Of class No. 2, *s. smithiana, S. mollissima* and *S. viminalis culis.* To be successful, the crop must be cut every

year, between fall and spring, unless poles are wanted, then they ought not to stand over three or four years without cutting. If you intend to peel the crop, place the butt ends in from four to eight inches of water for small stuff, large stuff deeper. Permit them to remain growing in the spring, until they peel freely; after the bark is stripped off, the rods might be thoroughly dried, and tied up in portable sized bunches, and they are ready for market.

FIG. 25—OAK-LEAVED MT. ASH (see p. 50).

Trees and Shrubs.

MANY trees may be cut off near the ground after they have obtained a good start, when they will throw up a mass of vigorous roots which answer all the purposes of shrubs. In this manner one may add greatly to the variety and attractiveness of his

shrubbery, if the practice is not carried too far. Such clumps always present a novel appearance. They are vigorous, clean, shapely. The sprouts may be cut back nearly to the ground every two or three years, allowing new ones to spring up, thus maintaining the desired size of growth. Most of our rapid growing forest trees are excellent for this purpose upon large lawns. We have good specimens of white ash, basswood, the European field maple *(Acer campestre)*, and others, grown in this way. The principle can also be applied to the growing of coppices upon large grounds, or about borders. For such purposes the beech and the oaks are preferable.

Many trees and shrubs are more attractive when grown in this way than when allowed to assume their ordinary forms. Examples of such are the ailanthus and the sumacs. The ordinary wild, smooth sumac *(Rhus glabra)* is one of the finest of decorative shrubs when grown in this manner.

Some of the tender exotics, also, may be managed in this way, especially such as make strong growths and bear large or conspicuous leaves. The paulownia and some of the magnolias may be cited as examples. Such plants should be given rich soil and good culture to enable them to make a long growth.—*L. H. Bailey, in Bulletin 31, Mich. Agric College.*

FLOWERS

LILY OF THE VALLEY (CONVALLARIA MAJALIS).

By Hermann Simmers, Toronto.

A GENUS of plants of the natural order Liliaceae, having terminal racemes of flowers, a white bell-shaped perianth, and a succulent fruit. Of all the subjects that I have taken up in reference to bulbs and roots, there are but few that the amateur has not a slight knowledge of, but the present subject is probably thoroughly known as regards the flowers; but in reference to their general culture some may not be so well acquainted, and I will endeavor to give some practical points in order to encourage the growth of this extremely popular plant. In the amateur's garden, we will always find a shady place, where nothing can be grown with any degree of success; therefore, if the amateur chances to have such a spot, this will exactly suit the growing of the Lily of the Valley. Should this spot happen to be a soil of sandy loam, the better the chance of success; as in Europe, where some gardeners raise these by the acre, the soil is generally of such a nature; in fact, the plants sometimes received from Europe are surrounded by a thoroughly sandy soil, and this would lead one to inquire how they could raise them with any success; but the ground is heavily fertilized with well rotted-manure and thoroughly worked before planting. In a like manner then, the amateur may proceed. If the soil has not been dug or fertilized, for a few years apply a liberal supply of manure in the fall about the middle of October, and if not ready to plant at that date, they may be planted any time before extreme frost, as they do not make much growth in the fall.

Take the plants, or pips as they are termed, and plant them in rows twelve

inches apart, and six inches apart in the rows, planting the roots straight down and not spread out, for in the course of a few years the plants throw out so many suckers that the rows will have met, thus making the bed one complete mass of Lilies of the Valley. Many people will say that the beds in such a state will flower better. Well, yes, there will be flower spikes, but to have good large spikes of flowers, I would advise thinning out the small plants, leaving the larger ones, thus giving them the advantage of developing their bloom; in fact, cultivating

Fig. 26.—Lily of the Valley (Convallaria Majalis).

them as nearly as possible as you would a vegetable crop, and not allowing them to be the tangled mass of plants so generally seen. In growing the Lily of the Valley for indoors, instructions should be observed similar to those given in the January number of the Horticulturist, with the exception that those parties having conservatories, would do well to give them bottom heat at first; then gradually cooling off, to place them in the brightest aspect the conservatory affords. If this is followed they may bloom for Christmas, taking only about six weeks to flower. If they are to be grown for indoors pick out the strongest plants, if separate, planting about six in a quart pot; if in a clump, dig up about a dozen, thus allowing for the smaller and weaker plants which are unable to bloom. Liberal applications of a liquid fertilizer are essential to produce a healthy bloom.

Double Lily of the Valley is treated similarly to the single flowering with the exception that they do not propagate as quickly, and are not at all suited for forcing. The flowers are distinctly double and will continue so, if properly cared for and not allowed to become matted. Convallaria Majalis foliis variegatis, or with variegated foliage, is a novelty, and much sought after in Europe. The flowers are single with white veined leaves, and are treated similarly to the double Lily of the Valley. They are very pretty whether in flower or not, as its foliage is very striking.

Pink Lily of the Valley is spoken of by some gardeners, but it rarely proves true to color, generally flowering the ordinary fragrant white.

I could mention several other varieties, but in my experience they have never proved successful, and I would advise the amateur to wait for some practical experience that may be given at a later period; as I find nothing discourages a person more than to plant something that will not produce flowers corresponding with descriptions given. The double and single types have been of long standing and will repay the amateur's care, if planted under favorable circumstances.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

To Our Subscribers.

THE ANNUAL REPORT for 1887 is now being printed and will soon be ready for distribution. We promise our readers a special treat in this volume, which will be two or three times as large as that of 1886, and alone worth the $1.00 to any fruit grower. As it will only be mailed to those who send in their fees for 1888, we hope all who have not yet renewed will do so at once.

The time for selecting from our Spring PLANT DISTRIBUTION is extended until the 1st of May, as our friends are sending in a great many new subscribers, and we wish to favor as many as possible with a share in it.

Hints for the Month.

PRUNING THE APPLE TREE.—Orchardists differ very much with regard to the best *time* for pruning the apple tree. Some advise June, because wounds then made heal more readily than at any other time. Most farmers chose early spring, when the first mild days come, and before they can proceed with other work, and before the sap has begun active circulation. Of late some writers condemn this season as the cause of the bleeding so often seen in apple trees in cold sections. Dr. Hoskins treats of this subject in a paper read before the Minnesota State Horticultural Society, showing that a tree that is not already *blackhearted* will not bleed, no matter at what season it is pruned. This blackheartedness is caused by excessive cold in winter, and is common in northerly sections, but unknown in southerly ones. For instance, the Baldwin is always blackhearted in Maine, New Hampshire and Vermont, while the Siberians and Russians are never in that condition. A tender tree will bleed, if blackhearted, no matter when it is pruned, and the less it is pruned the better. All things considered, we have as yet no reason for condemning the custom of our Canadian fruit growers with regard to the time of pruning their orchards, unless some special object is in view, of which we may speak under the head of Summer Pruning.

But with regard to the common *method* of pruning, we have some criticisms to offer. The annual butchering to which many orchards are subjected cannot be too severely condemned. On Maplehurst Fruit Farm, our oldest orchard, though over seventy-five years of age, would be in prime condition for another twenty-five years only for this practice.

Indeed those trees which, on account of inferiority of kind, were most neglected by the pruner, are now the healthiest and finest in the orchard; while the others are rotten at heart, or hollow, from the great wounds made in pruning. Prof. S. T. Maynard, of Massachusetts, gives an illustration of the right and wrong method of pruning in the *Farm and Home*, which we here reproduce.

Fig. 27.

Fig. 28.

Fig. 27 shows the wrong method of pruning on a tree from which several large limbs have just been removed. Many people always insist on removing the leading centre branch, to let in the sun as they say. We wholly object to this system, and would refer to Fig. 28, as showing the ideal form which should be the aim of the pruner. In this case the pyramidal form is produced by encouraging the growth of a strong, leading shoot, about which all others are allowed to grow as symmetrically as possible. The annual pruning will then consist simply in thinning out all superfluous small branches which tend to cross each other, and if growing too low, the side branches may be shortened back just beyond some upright ones, as shown by the dotted lines at *a*, *a*.

Pruning the Grape.—The cold, chilling winds of this month do not favor this work, and yet this is the time when very many vineyardists engage in it. Many systems are advocated, and yet the majority of growers in Canada prune without much regard to any of them. The *Fuller system* has been already well described and illustrated in these

Fig. 29.—Fan Pruning.

pages, and is one of the tidiest methods, with its main laterals trained along the bottom wire, from which uprights are trained to the upper wires and removed alternately. Many growers about Grimsby practise a variation of this system, which may be termed *Fan Pruning*, in which instead of two main laterals, several canes are allowed to form, and spread out upon the wires like a fan.

This mode does not give a vineyard nearly such a regular and tidy appearance as the former one.

Coal Tar as an Insecticide.—Mr P. Bennett says in the *Gardeners' Monthly*, that this is a valuable insecticide, and that a valuable powder may be made by running a quantity into a pile of fine sand, until the sand takes up all it will absorb. This powder may be kept for years without losing its value. Shaken over the floor of the poultry-house, no vermin will remain to annoy the fowls. It will drive away the squash bug and any other species of hymenoptera in short order. It should not, however, be applied to the leaves of the plants.

Aphis on Chrysanthemums.—We have tried Persian Insect Powder for this pest with good results; but the most approved method of destroying them is by use of tobacco smoke, if in a closed place, or tobacco water syringed upon the leaves.

QUESTION DRAWER.

Best Use of a Border.

16. Can you tell me what is the best use to make of a border about 5 or 6 feet wide on the west side of a stone wall running north and south and about 8 or 9 feet high? An answer through the Horticulturist will do. —Derfla.

Without seeing the border, or knowing the kind of soil, the question is a difficult one to answer. We would recommend grape vines planted eight or ten feet apart in a row down the middle of the border, or dwarf pear trees similarly planted.

Strawberry Leaves Curling Up.

17. What is the cause of my Sharpless and Crescent Seedling leaves curling up and becoming dry? They look as if an insect had sucked the sap from them.—J. C. Gilman, *Fredericton, N.B.*

We could not give any reliable answer without seeing samples of the affected leaves.

The Northern Spy.

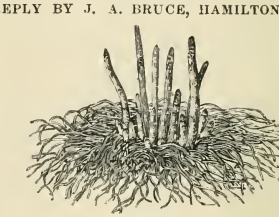
18. Is the Northern Spy a highly colored apple? I have some but they do not color much. Would our short seasons prevent hem from coloring. My trees are thrifty and hardy; well pruned and thinned in the top. I should like to grow more of them, if they made a better appearance.—J. C. G., *Fredericton, N.B.*

With us in Southern Ontario, the Northern Spy takes on beautifully rich shades of purplish red under favorable conditions. That is, it must be allowed to hang later than most other varieties, and needs plenty of sunshine. In the shade, they lack color, and on poor soil the fruit is imperfect and knotty. We would suppose the Spy rather tender for New Brunswick, and that such fine, hardy varieties as Wealthy, Winter St. Lawrence, and Scott's Winter would give you greater satisfaction.

Asparagus.

19. Please tell me how to manure and cultivate asparagus when the bed is 3 or 4 years old, without disturbing the roots, or does it make any difference?—A. J. C., *Listowel, Ont.*

REPLY BY J. A. BRUCE, HAMILTON, ONT.



Asparagus.

I would advise "Subscriber," about the middle of October to clean off all the dead stalks and weeds from his asparagus bed, and top-dress very liberally with old rotten manure, and leave for the winter. As early as the ground can be worked in the spring, give an

additional top-dressing of old rotten manure and trench it down very deeply between the rows (a broad tined spading fork is the proper tool for this work), and give another top-dressing of good rich loam to the depth of 3 to 4 inches. The advantages attending the above method of cultivation are, that the blanched part of the asparagus is more tender, the color more delicate, and the flavor improved.

Quince.

20. I have a Quince that has flowered two seasons and some of the fruit grows to the size of small nuts and then drops off. What can be the cause?—A. J. C., *Listowel.*

We suppose that your tree is still quite young, and as yet has not sufficient size and maturity to perfect the fruit. Give the tree a good mulch of coal and wood ashes mixed, and keep it well pruned, and no doubt you will soon be rewarded with fruit.

Apples for Russell County.

21. Are the Haas, Fall Queen, and Shiawassee Beauty, one and the same apple, and of what value is it for this part?—Andrew Walker, *Metcalfe, Ont.*

The Haas and the Fall Queen are one, and although the former is the commoner name in Canada for the apple, the latter is certainly the more euphonious. Its time of ripening is October and November. We hope to present our readers with a colored plate of the Haas apple soon. The Shiawassee Beauty is an early winter apple, keeping till January. It is said to be a seedling of the Fameuse. Both these apples are worthy of trial in your county.

Plums from Seed.

22. I have just received four dozen stones of wild plums that grow in the valleys and hill sides of Northern Iowa. My recollection of them is that the early ones were delicious. How and when should the stones be planted? Could seedlings be packed to survive a journey from there? Bro. Candidus, *St. Patrick's Home, Halifax, N. S.*

Plum stones should be planted as soon as gathered, before they have any chance to become dried out. They are best sown like peas, in broad drills, about one inch and a-half deep. The effect of the moisture and the freezing of winter is to crack the stones, and usually a large number will start to grow the following spring. At the age of one year, they may be transplanted into nursery rows. You might perhaps succeed by planting them in boxes now.

The young seedlings could be packed with damp moss, and oiled paper so as to come to you by mail from Iowa.

OPEN LETTERS.

Advice for New Sections.

Sir,—I received the January number of the Horticulturist to-day. I am very much pleased with its improved appearance and the interesting matter it contains. I have recommended your journal to my friends, and I wish you every success.

I consider that a grave mistake is made in our new townships in not preserving more groves of trees, and in not planting more when young trees are so easily procured without cost. On our virgin soils, trees grow with astonishing rapidity and with scarcely any failure. I planted a few Balsam Fir, Spruce and Cedars thirteen years ago. The Balsams are now twenty feet high and two feet in circumference; and though planted eight feet apart, the branches interlace for half that height, forming a nice wind-break. I would advise all, whose orchards and gardens are not properly enclosed, or who have not yet laid out an orchard and garden, to enclose from one to two acres with a wire fence, and then plant Spruce or Cedar six or eight feet apart in a line on the inside, about six feet from the fence on all sides. By a little annual clipping, in ten years a beautiful hedge will be formed, sheltering fruits and vegetables, sifting the snow evenly over the garden, and making a suitable cover for the little grey bird to build and make their home—for I consider them our very best friends in the garden.

In my next letter I will send you a few notes on fruits and flowers in the valley of the Nottawasaga River. Yours truly,

Frederick Foyston.

Minesing, Ont.

Grapes for Export.

SIR,—I was sorry to hear that the shipment of grapes to Glasgow had proved so unremunerative; this shows us that we must aim for grapes of higher quality and free from foxiness, if we would please the English taste. I hope that object will some day be obtained. We are preparing here to go into extensive tests and experiments in that direction. I have already obtained some good grapes of this character, and by taking these as a starting point and growing seedlings on an extensive scale, I have no doubt but that we shall soon have some good things in this line worth disseminating. WM. SAUNDERS.

EXPERIMENTAL FARM, OTTAWA.

The English Sparrow.

SIR,—In previous numbers of our magazine I have seen discussions (pro and con) on the English sparrow; for my part I think we would be better off without them. I have a Salem grape against the house, and one day when the grapes were ripe, there was quite a flock of the sparrows on the vine eating the grapes at a great rate; I have often seen them picking the wheat out of the ear when nearly ripe in the field; also on the stooks after cut. Where they are numerous they destroy a great deal. A few weeks ago I saw a beef bone on the street and there the little fellows were picking away at the flesh.

I think, if you would give us the price of the different kinds of apples in the English markets in the fall numbers of the HORTICULTURIST, it would be an improvement; the growers would then have some idea of their worth. We are at the mercy of the buyers or middle men; they don't pay anything like what the fruit is worth, in this section at least. From seventy-five cents to $1.25 per barrel for the best winter fruit scarce pays for careful handling. I would like to see an improvement in the prices paid here. WALTER HICK.

GODERICH, ONT.

NOTE.—We hope to be of service to our fellow fruit growers in this respect, by giving quotations for fruit in both home and foreign markets.

Folding Sawing Machine.

MR. THOS. MAGUIRE, of Molesworth, Ont., writes, that unless this machine is different from the one manufactured five or six years ago, he cannot recommend it very highly. He thinks that two men with a common saw would do fully double the amount of work in a given time than one man could do with the machine, and with just as little backache.

Moore's Arctic.

SIR,—I saw a question asked by some person about Moore's Arctic Plum. It fruited with me last year for the first time, three years after planting. I believe it will be a good bearer. The Curculio did NOT interfere with the fruit, but the tree is not proof against black-knot, as represented. What was furnished to me for Russian Mulberry, will sprout up each season and be killed again in the winter, I would pronounce them a failure here, (about 43°.50′ N. Latitude), northern part county of Perth, Ont. THOS. MAGUIRE.

MOLESWORTH.

Kind Words.

SIR,—Your paper, the CANADIAN HORTICULTURIST, has so much improved in matter and appearance that I cannot but compliment you on it. If you continue it will fill a place long sought after in this Dominion. A few pages devoted to other branches of horticulture must be very acceptable and instructive to the amateur class of its readers. We do not like to live on fruit alone. Give them a mixture of flowers and other subjects and you will have the hearty approval of a large class of your readers. Horticulture being my particular branch I will most willingly assist you at any time, should you think you require it.

N. ROBERTSON,
Supt. Gov't Grounds

OTTAWA, *Feb. 15th, 1888.*

REVIEW.

Reports.

TRANSACTIONS OF THE MAINE STATE POMOLOGICAL SOCIETY for the year 1886. Edited by Samuel L. Boardman, Secretary. 186 pages.

This volume has a frontispiece of the Hon. R. H. Gardiner, the late president of the society. Some idea of the subject matter of the book may be gained from the following selection from the list of subjects: Influence of Flowers in the Home, Defects in Orchard Management, Twenty Years Experience and What I have learned, Value of a Knowledge of the Natural Sciences by the Farmer, etc.

REPORT OF THE MYCOLOGIST, F. L. Scribner, for year 1886. Dept. of Agric., Washington, D.C.

We highly commend this work to the study of any one of a scientific turn of mind, or who wishes to experiment in the destruction of such fungi and bacteria as are such formidable obstacles to success in fruit culture. This volume treats of The Mildew of the Grape, The Black Rot, The Potato Rot, The Pear Blight, etc., and is illustrated with eight plates showing their forms of growth, and three maps showing extent of their distribution.

BULLETIN NO. 1. EXPERIMENT STATION OF THE COLLEGE OF AGRICULTURE, St. Anthony

Park, Minnesota. Reports on Russian Apples, Wheat Experiments and Potato Culture.

American Carp Culture, a monthly Journal devoted to the culture of the Carp, one of the most valuable of all fish for breeding in ponds, and is a species of Cyprinus which lives to a great age. The journal is published at Youngstown, Ohio, and the subscription is only fifty cents per annum. Mr. L. B. Logan is the Editor and Proprietor.

Vick's Floral Guide for 1888 has come to hand, with its interesting collection of illustrations of the many beautiful flowers with which he is prepared to decorate our houses and lawns. It contains three colored plates, viz: Fuchsia, Phenomenal, Radish and Lettuce, and Banner Oats.

Catalogues.

Seedsmen and Florists.

The firms in this line seem to be vieing with each other in sending out the most attractive and showy catalogues. In size, each seems larger than its predecessor, and many of them are resplendent with gilt, and rich chromo lithographic colors.

Gregory's Annual Illustrated Retail Catalogue of Warranted Seeds, Vegetables, Flowers, and Grain, grown and sold by James J. H. Gregory, Marblehead, Mass., 1888.

John A. Bruce & Co's Annual Catalogue of seeds for the season of 1888, corner of King and McNab streets, Hamilton, Ont.

V. H. Hallock & Sons' Floral Annual, 1888. Queens, N.Y.

Vaughan's Seed Store, 146 Washintong street, Chicago, Ill., 1888.

Illustrated Hand Book, 1888. Rawson's Vegetable and Flower Seeds, 34 South Market street, Boston, Mass.

John Lewis Childs' new and rare and beautiful flowers, 1888. Floral Park, Queen's Co. N.Y.

Catalogue and Price List of Fruit and Ornamental Trees, etc., for sale by Smith & Kerman, at the Dominion Fruit Gardens, St. Catharines, for the Spring of 1888. (Formerly A. M. Smith, proprietor.)

Nurserymen.

Descriptive Catalogue and Guide to Culture of Fruit and Ornamental Trees, etc., grown and for sale at Wilson's Nurseries, Chatham, Ont., F. W. Wilson, Proprietor.

Descriptive Catalogue of Northern grown fruit and ornamental trees, etc., grown by J. H. Wismer, at his nurseries, Port Elgin, Ont.

A. G. Hull's Descriptive Catalogue of trees, vines, and small fruit plants, grown and for sale at the Central Fruit Gardens, St. Catharines, Ont., 1888.

OUR MARKETS.

Philadelphia.

Green Fruits.—The Apple market is in good shape and firm for all merchantable stock. Demand is especially good for choice repacked graded fruit. Fancy Spys, Greenings and Spitz are scarce.

Apples, Spys & Spitz, fancy, per bbl	$3 00	to	$4 00
Apples, Baldwins, fancy, per bbl	3 25	to	3 50
Apples, Baldwins, good to prime, per bbl	2 50	to	3 00
Apples, Greenings, fancy, per bbl	3 00	to	3 25
Apples, Greenings, good to prime, per bbl	2 00	to	2 50
Apples, Russetts, choice to fancy, per bbl	2 25	to	2 75
Apples, Winter, No. 2, mixed cars, per bbl	1 75	to	2 00
Cranberries, N.J., dark, per crate	3 00	to	3 15

Vegetables.—Potatoes are in increasing demand, with milder weather, and choice stock is firmer. Eastern Early Rose seed are scarce and held at $2.50 per bbl. Other Vegetables are in better demand, with warmer weather.

The English Market.

Apples.—Those who have apples to ship to to English market now will be exceedingly fortunate. As a result no doubt of our exertions in connection with the Colinderies, there is a perfect craze in London for our apples. The English people are waking up to the fact that they are paying foreigners $40,000,000 annually for fruit, and urging their own agriculturists to engage in fruit culture. For an example we give the following extract from *The Horticultural Times* of Feb. 11th:—

"Here is another 'object lesson' for English fruit-growers. During the past week the prices and demand for American and Canadian apples have increased considerably, in fact almost doubled themselves, in consequence of the scarcity of English fruit. The demand for apples, in fact, has been, and is, simply astonishing, and cannot be supplied. This, however, as we have repeatedly pointed out, happens season after season, and is one of those things we have asked the home grower to remedy."

THE HOME.

For the CANADIAN HORTICULTURIST.

HOPE.

BY GRANDMA GOWAN, MOUNT ROYAL VALE, MONTREAL, P.Q.

I hear the north wind sigh, and say,
Soon I'll bring frost and snow.
I bid farewell to my flowers to-day,
Sweet treasures! must you go.

I may not see you here again,
And ere my roses bloom,
Kind hearts, whose love shall never wane,
May plant thee near my tomb.

Flowers lovelier than mortal thing!
I'd sleep, if thou wert near;
And all around thy fragrance fling,
And drop a crystal tear—

What's loved in life; may it be given
(If humble the request)
To roam 'mongst flowers in the fields of heaven,
With garlands for the blest!

Garlands, to hang on the harps of gold
Of my loves ones lost, and found,
Now safe within the Shepherd's fold,
Where joy and peace abound.

Sweet sadness leads me to the throne,
My aching heart to still,
To make my mute petitions known,
And hear His kind "I will."

Oh happy hope! through endless years,
I'll sing again their lullaby,
For God will change my sighs and tears
Into a deathless melody!

DECEMBER, 1887.

HAAS.

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 4.

HAAS APPLE.

OUR frontispiece represents no novelty. It is an apple, which under various names, as Haas, Fall Queen, Gros Pommier, etc., has been well tested in Illinois, Iowa, Vermont, and the Muskoka district of Ontario, as well as in many other places, and the universal verdict is favorable. According to Prof. Budd, of Ames, Iowa, it is a full-blooded Russian in its origin, though long ago introduced into the Southern United States; and is grown in Northern Sweden under the name of "Grosse Pommier."

As might be expected from its origin, it is a variety of great hardiness, and may be commended for planting in most parts of Ontario.

The fruit is very attractive, being above medium size, and in color a pale greenish yellow, shaded and striped with red. It is like most apples of Russian origin, a fall apple, ripening in September, and keeping until about the first of December. The flesh may be described as white, tender and juicy. At the South it is regarded as coarse-grained and sour, but grown at the North the quality is far better, and is fine-grained and sub-acid, especially if picked early and kept in a cool place until November; when, according to Prof. Budd, it becomes decidedly pleasant for eating, if the skin be removed in which an unpleasant flavor is observable.

In habit of growth the tree is unique, being remarkably upright while young, even in spite of abuse, and when older, its branches become gracefully pendant.

The tree bears fruit early and abundantly.

Fig. 31 —A. M. Smith, the Vice-President of the Fruit Growers' Association of Ontario.

SOME PROMINENT CANADIAN HORTICULTURISTS.—III.

A. M. Smith, the Vice-President of the Fruit Growers' Association of Ontario.

THE Niagara District has been for many years the foremost fruit-producing section of Ontario. The growing of apples, pears, peaches, cherries, grapes, and small fruits for shipping was here encouraged at an early date, and it was at Grimsby, some thirty years ago, that the custom of shipping perishable fruits by express was first begun in Canada.

Who was the prime mover in this industry, which has now made Grimsby famous as a fruit centre, and discovered for this whole peninsula a mine of wealth for the faithful and industrious fruit culturist? In reply we give

not merely the opinion of the writer, but also that of his fellows who compose the Fruit Growers' Association of Grimsby, and who passed a unanimous resolution at a recent meeting giving Mr. A. M. Smith honorable recognition, as the one who had done more than any other one man to encourage the development of that most prominent and remunerative of all industries in the Niagara Peninsula, the cultivation of large and small fruits.

Mr. Smith is a native of Brandon, Vermont, and therefore may be looked upon as belonging to that class of "Green Mountain Boys" whose characteristic pluck was so praiseworthy under the conduct of the historic Major Ethan Allan. In 1845 the family removed to the Ridge Road near Lockport, N.Y., where after his public school life was over, and a short term at Yates' Academy, he became an apprentice to the nursery business with the well-known firm of Messrs. E. Moody & Son.

In 1856, becoming acquainted with Mr. C. E. Woolverton, of Grimsby, Ontario, and enamoured with the situation of his farm, lying between the mountain and the lake, as one well adapted for the growth of fruit and of fruit trees, a partnership was established which continued some fifteen years, during which time honest personal dealings with the farmers brought the firm a very large local business. The writer well remembers the general surprise, when in 1860, a peach orchard of five acres in extent was planted, with such varieties as Early Purple, Early York, Honest John, Early Barnard, Morris White, Early Crawford, Late Crawford, Old Mixon, etc.; and the general exclamation, "Surely you will glut the market!" But time has converted the critics themselves into peach growers, and now almost every farm has its peach orchard. The same was done with strawberry, raspberry and blackberry culture, the possibilities of each being proved by practical results.

He continued his nursery business in other relations at Grimsby until 1883, in connection with branches at Drummondville, Lockport, and St. Catharines; though he moved to Lockport in 1869, to Drummondville in 1872, and St. Catharines in 1880, at which place he now resides.

Mr. Smith was one of the constituent members of the F.G.A. of Ontario, at its formation in Hamilton in 1859; and for ten years has been a director of the same.

We hope to be long favored with the presence of such men at our meetings, who are able to give us the wise counsel resulting from an extended experience. For the benefit of those of our readers who cannot attend, we have had the accompanying engraving prepared from a photograph which faithfully represents his kindly face.

HORTICULTURE AND THE YOUNG.

BY A. M. SMITH, ST. CATHARINES, ONT.

IT seems to me that if our children were better instructed and thus made more interested in Horticulture, it would be a great step towards solving the question which we so often hear asked and discussed, "How shall we keep the young folks on the farm?" for we who were brought up there all know that some of the most pleasant recollections of our childhood are associated with this subject. Who does not remember some favorite apple tree or other fruit tree, under whose shade he reclined when a boy, and listened to the humming of the bees amongst its blossoms, and the songs of birds on its

branches, and what interest he took in the growth and ripening of its fruit, and in the gathering and eating of the same. Who can forget the fragrance of the old lilac and syringa bushes in the front yard, or the whiteness of the snowball, or the beautiful brightness of the morning glories that climbed over the porch and kitchen window, or the smiling faces of the old-fashioned tulips, pansies, peonies, poppies, sweet williams and marigolds, that greeted him along the garden walk? Who does not recall with pleasure the search for wild flowers in the forest, in the early spring time, and the gathering of wild strawberries in the meadows in summer, and the nutting expeditions of autumn? There is a natural taste in childhood for horticulture, and the question how to cultivate and develop it is one of great importance, and one which I am glad to see is taking a place amongst the discussions of our Fruit Growers' Association. The subject of introducing it into our schools and making experimental gardens of our school-grounds, which was brought up at Ottawa, is one of importance and which I hope to see carried out; but in the meantime we should be doing something at home to interest our children there. How many of our farmers ever give their children a rod of ground to cultivate for their own, either for fruit or flowers? or give them a tree to plant, the fruit of which they may claim as their own? How few of them ever exercise any taste themselves in laying out their grounds, or in planting shade and ornamental trees, shubbery or flowers, to make their homes attractive! and yet they wonder when their children go where these things are, that they should be attracted by them. I believe that the nice grounds and the well-kept lawns stocked with choice trees, shrubs and flowers of our town and city residences, are one of the great attractions to farmers' sons and daughters, and that if the home yards were more tastefully adorned with them, where there is no valid excuse for their absence, the young people would be far less inclined to leave their country homes. Then interest the children at home in these things; give each one a plot of ground for his own; give them seeds and plants and trees even; teach them how to cultivate them, and let them feel that they have an ownership in the farm, and they will not be in so great a hurry to leave it. A few years ago I was enlarging my fruit garden, and my wife suggested that I should plant a tree for each of the children. It was astonishing with what eagerness they all joined in with the suggestion, even to the youngest, a little girl of six years,—"And can I have a tree too, papa?" she said, "and have the fruit all to my ownself?" Well it was finally arranged that each member of the family should select a tree of what ever fruit they wanted, and they were planted. None entered more joyously into the scheme than the little ones, and an old uncle in his second childhood who lived with us, and the care and attention that those trees received would put to shame most of our orchardists, each one vieing with the other to see who should have the finest tree and the first fruit. The old uncle's ripened first, a golden apricot, which was the last fruit he ate before he entered the golden gates to eat the fruit of the tree which stands by the River of Life, in the Celestial City. The fruit on the other trees has since ripened and the children will soon be separated, but I am sure none of them will ever forget their own fruit tree on the old homestead.

FERTILIZERS.

Potash for the Peach Yellows.

On the 4th of February last Mr. J. H. Hale, of Connecticut, read a paper before the Massachusetts Horticultural Society on the Cultivation and Diseases of the Peach. With regard to the points of careful cultivation, annual shortening in of the young wood, etc., nothing was elicited that is new to us; but it is worthy of notice that in his experience muriate of potash had proved almost a specific cure for the Yellows. That part of his orchard treated to liberal doses of this fertilizer was free from the disease, while that not so treated was saddly affected. Indeed one tree which was sick with the yellows, was cured by it. He applied 10lbs muriate of potash, and five pounds of nitrate of soda, and in the following spring cut back the top one-half, and as a result, by the month of August this tree was the pride of the whole orchard. He said further: As to the yellows, the advice generally given is to exterminate the tree as soon as the disease is noticed. Yet in the case of a tree of his own, the essayist would no more think of cutting it down than he would a friend who had malaria—a disease of which the doctors know as little as we do of the yellows, yet they brace us up with quinine, and we are able to go on and do a portion of our share of the world's work. A tree affected with yellows is sick—not dying—and should receive the treatment which has been before described as having proved an apparently effectual remedy.

Clear Potash as a Fruit Manure.

I have used within the last few years a good deal of potash in connection with the trees in my orchard, usually buying it by the cask for this purpose. I simply break the potash into small pieces, not larger than egg size, using about eight pounds to an average sized tree—which is equivalent to two bushels of good unleached ashes—scattering it upon the ground about the tree, in a circle extending half way from the trunk to the extremity of the branches. When this is done in the fall or early spring, the rains and snow dissolve the potash, which will be absorbed and spread through the soil, thus bringing the fertilizing properties directly to the small roots of the trees without the slightest injury to the vegetation. The future crops will show remarkable results, both in quantity and quality of the fruit. In 1885 my trees bore, as did everybody's that year, a heavy crop of apples; and again this last year, I have had, what few others had, a crop nearly as large as the previous year, which proved of a remarkably fine quality both in appearance and freedom from decay. This I can only attribute to the free use of potash on the soil about the trees, proving, I think clearly, what has been so often asserted, that potash is a fertilizer essential to the growth of fruit. It has been very efficient in my orchards, more so than anything else I have used. One pear tree which for a long time had small and imperfect fruit, the spring following the application of potash produced pears of extraordinary size and singularly free from blemish. I esteem potash as admirably adapted to all kinds of fruits, large and small.—*Farm and Home.*

FLOWERS

HOW TO PREPARE A HOTBED.

BY HERMANN SIMMERS, TORONTO.

FOR those that take a deep interest in horticulture, and wish to have a supply of plants at a very moderate price, the best plan is to attempt a hotbed, and find that he may grow early plants equally as well, and just as early as a market gardener or florist. As will be seen by the illustra-

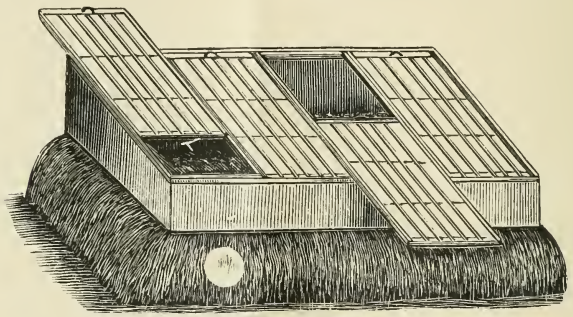


FIG. 32.—A HOT-BED.

observe the following instructions as to "How to prepare a Hotbed." No person can fully realize the great benefit of a hotbed until he has thoroughly tested it. When the amateur makes a purchase of a few packets of seed, and attempts to raise plants in a box in the house, probably before the plants have properly developed they would be in no better condition than if they had been sown in the open air; having been grown under disadvantageous circumstances. He may plant out a lot of puny plants, which would take half the summer to recover, if they ever live that long. Therefore with what satisfaction must any person

tion, the bed is made on the level ground, taking fresh strawy horse manure for the foundation of the bed. The manure should be thoroughly shaken up, whilst building the bed, so as not to allow any lumps to interfere with the heat, and thoroughly tramped to keep the heat together. The depth of manure required should be about eighteen inches, and when the manure has been thoroughly tramped, place the frame on this. The frame to be made three inches higher at the upper end than at the lower, to allow a slight fall. On the frame place the sashes, and allow the beds to remain in this condition for about ten days, when the

manure will be sufficiently heated to receive the loam upon its surface. The depth of loam required, varies for the purpose for which it is required, but six inches will be an average depth for the amateur. If the hotbed is required for growing lettuce, radishes, etc., for early use in the house, three to four inches of loam will be sufficient; but for general purposes, as growing plants, etc., six inches of loam is better, as the bed does not dry out so quickly, and therefore does not require such repeated watering. After the beds have been sown they should be covered each day with some matting during the hottest portion of the day, say from ten to four in the afternoon. At the time of covering, each sash should be shoved down or tilted at one end to allow the bed to air, at the same time prevent the plants from damping off. Water the beds in the evening after taking the matting off. If the hotbed is started the first week in April, which is the best time for the amateur to commence, the plants may be ready to set out by the first of June. Ventilation should be increased as the plants grow stronger. About the middle of May the sash may gradually be taken off altogether, after which thoroughly drench the plants with water, as the roots will gradually be approaching the manure, and therefore dry out the quicker. I have endeavoured to be as explicit as possible in explaining the construction of a hotbed, but if there are any little details that the amateur may not exactly understand, the Question Drawer of THE HORTICULTURIST may be used, and I will only be too happy to answer such questions.

I must again say that any person attempting a hotbed will find the advantages equally as great as I have mentioned, and they may have their gardens thoroughly stocked with either flowers or vegetables, at but a trifling expense.

SEED SOWING.

BY N. ROBERTSON, SUPERINTENDENT GOVERNMENT GROUNDS, OTTAWA.

THIS, if properly done, will often save the cry that the seed was bad. The fault lies more frequently with the sower, and the attender, than anywhere else. Last year, I sowed many sorts, from different seedsmen, and there was only one that I could call bad. Another party sowed pretty much the same varieties, and from the same seedsman: the seeds were in every respect the same, his were nearly all bad in his opinion, whilst mine were all good. In many years, I have but very rarely got a packet of bad seed. I will describe my mode of procedure; it may be useful to some one that is afflicted in this way. In our latitude, about the first of April is the best time to sow, and seeds will come on at this time, and be as early, as those sown earlier; the weather being more favorable, unless for some varieties that take a long time to germinate. I shall suppose your hotbed made of fair strength; if weak, your seeds may rot. This done, put in your soil. If in frozen lumps, I like it all the better; a day or two will soon thaw it out, and you will have a nice, free, pulverized soil. Avoid putting it in wet, or it will become hard, and in bad trim when thawed out. Level it with your rake, as nicely as possible. Pass a straight-edge over it, and be sure it is so. I make my little drills with a straight piece of half-inch stuff, sharpened on the edge, and if not level, some parts will be too shallow and others too deep. Before pressing this into the soil to make your drills, sift some fine soil evenly over the surface, so that your

seeds may be in fine soil. For large seeds, the same care is not required as for fine ones. It is almost needless to say that larger seeds require your drills to be deeper, by pressing heavier on your wood : the piece for this purpose should be the length of the frame. Then sow your seed, and again sift fine soil evenly over the top, and run a trowel across it to smooth it up. This done, put on your sashes, and cover them up from the sun, and leave them so until you see them peeping through. Don't water, unless the soil is very dry. It hardens the surface : the steam of your bed will generally keep it moist enough for this purpose. Some care should be taken in sowing to put together those that will germinate in about the same length of time ; for it is at the uncovering where most of the bad seeds come in, because if they once germinate, and dry up, the seed is done forever, and it is almost impossible to keep them moist if you expose them to the sun when up, before they gather a few days' strength. Great care must be taken not to allow the sun to pour directly upon them : light they must get ; but then you can shade them. Air must be attended to, or you will soon have a damp-off. Air must be admitted from the time your soil is placed in the bed. If you don't allow the steam to escape at this stage, your soil may become too damp to sow, and after the seeds are sown, if there is too much steam, let it escape for a time every day. If you follow these directions, no fear of bad seed, if you get them from a reliable seedsman. There is still another thing to be observed ; keep close to the glass, not more than three inches from it, when you sow ; they will sink more or less according to the nature of the manure. If not, it is an easy matter to raise your frames, but it is not likely to be necessary, as sowing so late enables you to expose entirely in a shorter space of time than early sowing does.

Outside sowing is just as precarious as the other to meet with success. You sow dry, and that is all right, until the soil once becomes wet : then it must be kept wet until the plants are through the ground, that is, when fine seeds are used. Large ones do not require the same attention, as they being deeper in the soil, will remain in moisture a longer time. Parties will be seen, where fine seeds are sown, watering with the can and so washing them out, and if the sun is strong an hour after they are dried up. For fine seeds, the better and easier plan is to shade until you see them up. This is where the great failure in most seeds occurs, viz.—allowed to germinate, and then to dry up. Prevent this, and all will come out right.

ROSE NOTES.

BY THE HON. MRS. LAMBART, NEW EDINBURGH.

(A Paper read before the Ottawa Meeting of the F.G.A.)

PERHAPS a few remarks—the result of seven years' experience in rose growing, on a somewhat extended scale—may be of interest as supplementing the regular paper on the subject.

In the first place let us realize that it is not against severity of climate, but against the length of time during which the roses must remain covered, that rose growers in Ottawa have to contend.

None of the hardier teas—none of the hybrid teas—none of the hybrid perpetuals—none of the mosses—need ever lose one inch of wood *from cold* if properly covered, but the greatest care and precaution have, in my case, utterly failed to prevent the loss of a

large number of bushes every winter from decay.

Dampness gathers where ventilation is impossible—the hot suns of early spring turn the imprisoned moisture into steam, and when the snow is gone and the roses come to be examined one is aghast at the mouldering blue-black mass of jelly that was once a rose bush, often not more than one or two inches of healthy wood surviving above ground.

This disaster is wholy confined to the hardier roses, which, with their stout woody stems are more readily a prey to decay than the leathery pliable stalks of the tender varieties.

My La Frances (nearly a dozen of them) all vigorous growers have survived many winters, but have never lost one inch of wood from any cause but the pruning-knife, and the Gloire de Dijon, a pure tea, has passed equally well through one winter quite out in the open ground.

The Jacqueminots, (on the other hand) and all that hardy Baroness Rothschild race, and the mosses and the provinces, (the hardiest of all,) have come out of their winter sleep little heaps of black ruin.

My experience proves that the hardest of the roses (that is my hybrid perpetuals, mosses and provinces), will pass the winter without the slightest injury, quite uncovered, if they are planted near a close high fence, and that if planted quite in the open and left perfectly upright and uncovered the wood will only be killed back to the snow line; as that is about the extent to which they should be pruned, there will be but little damage done to either the bushes or their season's bloom from their winter's exposure.

I have found that, to lessen the risk of decay, it is better not to cover the hardy roses until December, although it is well to peg them down in November. The teas, hybrid teas and polyanthas should be covered in November —and well and deeply covered for at least a foot or more from the stem all around. Leaves, earth, evergreen branches, then more leaves and evergreen branches—a goodly pile,—but for the victims of decay nothing does so well as a very light covering of very dry straw.

In regard to pruning, several systems are recommended, and I have tried them all, with the result that the few concise and simple rules given by George Paul (the president of the English rose growers,) have proved by far the best for us as well as for England.

He makes it a rule without exception, to cut out altogether all wood more than two years' old, and to shorten the strongest shoots about one-half. Cut out altogether the weakest and the crowding shoots, and the less vigorous branches cut back to three eyes.

These rules apply to hybrid perpetuals only—Madame Plantier, Charles Lawson, Blairii and all of that class, should have all the wood that has flowered cut out entirely, directly the flowering season is over, thus encouraging an immediate growth of new shoots from which the next season's bloom will come.

In regard to insects, mildew, etc., I have seen nothing new suggested for some time, but I think that effectual remedies are well known to all rose growers, and only untiring fidelity in using them is required.

It may not be generally known how much common soot will add to the beauty, brilliancy and substance of a rose. It should be well mixed with the earth close to the roots, and a very few weeks will show its benefit.

It is very important to keep the rose beds well mulched during the heat of summer, and their foliage sprayed as often as possible after sunset.

(To be concluded.)

Fuchsia "Storm King."

Our readers who have selected the Storm King Fuchsia from our plant distribution will perhaps be interested

in the following opinion concerning its value from Currie's Monthly:—

"This Fuchsia has perhaps been more largely distributed than any variety introduced within recent years. Immense numbers have been sold, and have been received by every one with entire satisfaction. It is unquestionably synonymous with that earlier introduction Frau Emma Topfer, but that is of little importance to the lover of these plants, who is simply on the outlook for a fine Fuchsia, of a certain habit and colour of blossom, regardless of name. By whatever name this variety is known it is certainly the finest ever introduced. As one looks at a fine specimen of it in full bloom he is inclined to think that it is impossible to produce anything in the Fuchsia line superior to this one. The habit of the plant is all that can be desired; it is inclined to branch freely and maintain a compact growth. A well-grown plant never fails to be a most attractive object, as it is sure to be covered with a rich profusion of flowers. And what flowers! so large and so double. The corolla is very full, white, suffused and veined with delicate rose, sepals well reflexed and bright crimson. Usually a very double, light coloured Fuchsia will be found a shy grower and consequently difficult to manage, and not very satisfactory; but this one is a robust grower, as much so as the old dark double Elm City, or the single light one Arabella, and fully as free a bloomer as either of these, or any other Fuchsia in cultivation; there is certainly nothing to equal it."

FORESTRY

FORESTS VERSUS ORCHARDS.

BY T. M. GROVER, B.A., NORWOOD.

I THINK the fruit growers of Ontario will be more likely than the general public to appreciate the value of forest plantations. As I do not live in a fruit country I have not the pleasure of knowing many orchardists, or how sensitive they may be on hearing an argument on the superior advantage of a plantation, but I am sure they will listen to it.

The possible returns from a matured orchard are great, but great care and the watchful eye of a skilled owner would seem indispensable at all times; and I would be afraid that like other specialties in farm property orchards could not at all times be sold for their real value, and without continued care might rapidly deteriorate. The Forest when fairly started will require from the owner only attention enough to keep the taxes paid, and skill enough once in five years to sell the crop, *i.e.*, the thinnings.

And, if for any reason the owner can no longer hold it, the timber can be sold for its value even by the most rash of agents, heirs or executors, and the land available for any usual purpose

I do not know at what price a fruit farm could be sold, or if three or four such properties were on the market at once, could men of the skill and capital required be found to buy at any price; but it is likely that at any age a forest would more easily be sold than an orchard, and have the further advantage that if not sold, the value would rapidly increase.

Although cedar and other wood lots can still be bought for one dollar per acre here, people are beginning to know that timber is valuable in this country.

A single pine tree delivered in Buffalo is worth $200. Very ordinary natural forests are sold near Lake Erie at $60 to $200 an acre, and it is calculated that much of the walnut of Ohio, if now standing, would be worth $5,000 per acre.

How will a plantation fifteen, twenty-five or seventy-five years old compare with an orchard of the same age? Too many still think that the timber could only be of profit to our grandchildren. Foresters tell us that after a certain age a tree declines. At fifteen years an orchard would be in its first vigor. A proper plantation can be laid out to furnish saleable wood at any given age, or a proportion of early maturing trees can be interspersed with the slower growing, the most proper gene ral course, but for a special market a forest of a single kind may be quite suitable.

All forests can yield a good crop yearly after five years in thinnings, until the whole may be fit to cut.

Any of the following trees may be grown alone or together and treated in this way :—Hickory, White Ash, Yellow Locust, Black Walnut, Cherry, Box Elder, Elm, and these are merchantable at all sizes. Ash, Hickory and Elm are in demand for implements at four and six inches in diameter. Locust will furnish railway ties in ten years. Walnut and Cherry will come in for turnings in much less time. The great value of the large trees is well known. Oak in twelve years yields full returns in tanbark and charcoal in manufacturing counties.

But though the intermediate returns of a forest are greater than ordinary farm crops, I am speaking now of the sole value of proper plantations of say 2,700 trees per acre, four feet apart in their earlier stages, or 680 trees at eight feet of fuller growth. I find that many members of the Fruit Growers' Association have brought up this subject in times past, and in Forestry reports from Ohio and the U.S. Government I find several cases quoted ; one in Southern Indiana of a fortune realized from twelve acres of pecan nuts.

Twenty-three acres of Walnut, twenty-three years old, sold for $27,000.

Yellow Locust standing in one forest eight feet by eight, and cut off clean, yielded several hundred dollars per acre, and in nine years the sprouts from the stumps made 5,000 posts per acre.

Hickory has yielded a fine forest in twenty years ; Catalpa, ties in eight years.

A lot of seeds which I put in last year attained the following growth the first season : — Black Walnut, 14 inches ; Chestnut, 9 inches ; Catalpa, 2 feet ; White Ash, 1½ feet ; Mulberry, 12 inches ; Yellow Locust, 6 feet 6 inches. A promise to yield some day the returns stated.

Many examples of great interest are given of timber not quite hardy here : but investigation of indigenous trees even here in the backwoods during my short experience in planting, leads to the conclusion that a forest here could be laid out equal in value to any orchard. And as orchards are increasing in number while forests are disappearing, before a forest now started would mature it will be worth three orchards.

THE CUT-LEAVED WEEPING BIRCH.

(Betula Alba Pendula.)

BY SIMON ROY, BERLIN.

THIS beautiful tree, although of comparatively recent introduction into Canada, is gradually receiving marked approbation from all who take an interest in arborial decoration. Its symmetrical form of growth,

FIG. 33.—CUT-LEAVED WEEPING BIRCH.

its slender pendulous twigs, often six feet in length, hanging from the branches, sometimes twisted together into natural wreaths, which sway gracefully with the wind, its marked and deeply cut foliage, its shining white bark, and its fragrant scent in the early morning after a fall of dew, or shower of rain, all combine to make it the most attractive object on the lawn; but to be viewed to advantage it must be planted singly, with sufficient space not to come in contact with other trees.

For cemetery planting no deciduous tree can be more appropriate, even surpassing in appearance the common weeping willow (*Salix Babylonica*) of historic fame, on which the captive Israelites hung their harps by the banks of the Euphrates, after singing their mournful native melodies.

The birch, just alluded to, was discovered in a bed of seedlings of the common weeping birch in a nursery in Germany, and being pistillate does not produce seed of itself, unless in close proximity to a monaecious birch; and even then the seedlings might revert to original conditions. It is what may be termed a *lusus naturæ*, and can only be perpetuated artificially by working on seedlings of other birches.

All birches, either indigenous or exotic, are very desirable, either planted singly or grouped with other trees. The white barked varieties produce a fine contrast with those of darker colors.

The natural order Betulaceæ (birches) is indigenous only to the northern hemisphere, and mostly confined to the temperate zone; some dwarf varieties, however, have been met with on the tundras of America and Asia, within the arctic circle

The Canadian Horticulturist.

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Hints for the Month.

CLEANING UP.—One of the first things for the orchardist to do, as soon as the iron grip of winter has become relaxed, is to gather up the accumulated rubbish. Every bushel of ashes, whether coal or wood, should be utilized, the former being useful as a mulch, especially for trees in sod; the latter as a special fertilizer for the peach and the grape. The closets should be thoroughly emptied of their contents, mixed with either fine dry earth or coal ashes, and then applied as a most valuable fertilizer to the young orchard. Indeed the best possible mode of making nightsoil inodorous, and easily handled, is to have the vault well built with stone or brick walls, with a door in the rear by which it is accessible, and of such a size as to receive all the coal ashes from the house. Of course this applies only to the country outhouses, but it is a most satisfactory method, if only for sanitary reasons.

Another manure too often neglected on our country farms is the accumulations of the poultry house. It is one of the most valuable of manures, and should be mixed with dry earth, or plaster, and used to the best advantage.

The lawn and garden will need a general raking over and tidying up at this season. No stray brush, leaves, rails, sticks or stones should now be left to disfigure the yard for neglect of giving the few hours' time that is needed to impart to one's home surroundings a thrifty, tidy appearance.

THE BRUSH.—Unless the limbs cut off in pruning are early gathered, press of spring work will cause the orchardist to neglect them until late in the season, a disgrace to the premises; and then less easily removed owing to the growth of grass and weeds. There is no time for this work equal to the present, and there is no better plan than to burn as fast as collected, because it saves a second handling. Our own method is to use one horse and a long, light built drag about ten feet long and three feet wide, with four upright and removable stakes, one at each corner. On this the brush can be most readily collected, and drawn to the burning place to be devoured as fast as unloaded. The same drag is most useful in gathering up the

old canes cut loose in the rows of the blackberry and raspberry plantation, which can be easily handled with a four-tined fork.

Removing dead Peach Trees.—In early spring, while the ground is still soft and wet, is a particularly convenient time to remove old dead peach trees, or such as have been doomed on account of the Yellows. The small limbs having been first removed with saw or axe, a chain is made fast to the main branches, and the whole tree may be quickly uprooted by a good team of horses, after a good draw in one or two directions. In obstinate cases, we find it necessary to aid in the operation with the spade and the axe.

Cuttings of currant and gooseberry bushes, or grapevines, may still be made, and buried in the earth for two or three weeks until the ground is in good condition for planting them.

The Planting of all kinds of fruit stock should not be delayed after the ground is in condition for it. Currants, blackberries, raspberries, etc., should be first attended to, as they start to grow very early. Nothing is gained by hurrying the work of planting. Far better even to defer planting an orchard for another year than plant in unprepared soil. By this we mean that ground for an orchard should have been either summer-fallowed, or worked up with root crops, and well enriched the year previous. In accepting parcels of trees from the nursery, see to it that each one has a proper proportion of fibrous roots, as in many instances the workmen who dig the trees from the nursery rows plunge their spades in so near the trees as to ruin them. Indeed, in ordering trees, it would be well to make it a condition that the roots should be of certain lengths in proportion to their height, and fibrous. The hole should be made much larger in diameter than the roots demand, and the tree should be set about the same depth as it stood in the nursery rows. Fill in with only the best and finest earth, and press it firmly about the roots, taking great care that the roots

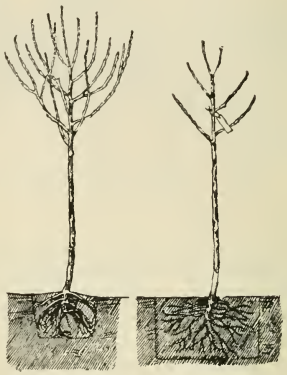


Fig. 34. Fig. 35.

are not crowded together, or bent out of their natural course. This point is illustrated by figures 34 and 35.

Grape Grafting.

[In connection with our "Hints for the Month" the following article may be interesting to some of our Vineyardists. It is written by S. Miller, in the *Horticultural Art Journal.*]

Why so many will persist in grubbing up Concord vineyards only five to eight years old, and some even younger, I cannot conceive. They tell me they have found grafting so uncertain that they have abandoned it.

My success has been varied, but taking all together, I have never dug up a vine because the fruit was not good, or because it rotted. One difficulty is, that at the proper depth (three inches below the surface of the ground there is often a twisted or knotty place. This is no defect, as I have found, but instead of splitting the

stock I use a sharp saw pretty widely set. When the wood to be used is heavy, I saw out a long wedge, deeper on one side than the other; cut the graft to fit tightly, tie it and replace the earth firmly up to cover the whole bud a little, and put a handful of sawdust on it to keep from getting a crust to prevent the bud from pushing through. I prefer grafts with two eyes, unless too long jointed. As to the time of grafting, there seems to be but little difference from the time the frost is out of the ground until the vines have grown two feet. As to the bleeding, as it is called, this is a mistaken notion. The greatest success I ever had in grafting on two year stocks in the nursery was in cutting off the vines; when they were so full of sap, that as the clippers would snap off the vines on its little spring, the sap flew up into my face. There is much more in the condition of the grafts to be used. These must be of well ripened, sound wood, taken off late in the fall before severe weather has occurred.

If the grafting is done late, the grafts to be used should not be kept back, but may be in full sap and the buds well swollen. If too dormant, they will be drowned by the sap from the vine before they have time to callus. And when they do begin to grow and suckers rise from the stock, great care must be taken in removing them. I invariably stick a little pine stick one inch south of each graft, so that the exact place of the bud may be known.

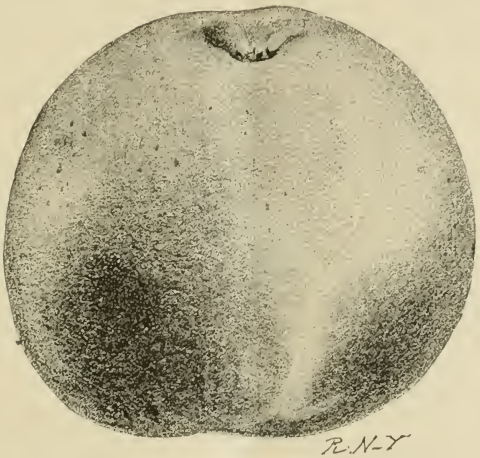


Fig. 36.—The Princess Louise, or Woolverton Apple

The Princess Louise, or Woolverton Apple.

Messrs. Smith and Kerman, of St. Catharines, have of late been exhibiting fine samples of this valuable new apple at the meetings of the various Horticultural Societies. It was shown at our annual meeting at Grimsby, at the last meeting of the American Pomological Society at Boston; at that of the Western New York Horticultural Society at Rochester, and at our winter meeting at Ottawa; and now that it has been favorably noticed by the fruit committees at all these places, it

will surely not be considered improper for us to notice it in these columns.

It was given the name "Princess Louise" by a fruit committee of our Association on account of its remarkable beauty of appearance, and as a compliment to Her Royal Highness, but the name "Woolverton" is preferred by some as being shorter, and at the same time indicating its origin on the Woolverton homestead.

The accompanying cuts of this apple were prepared from nature by the

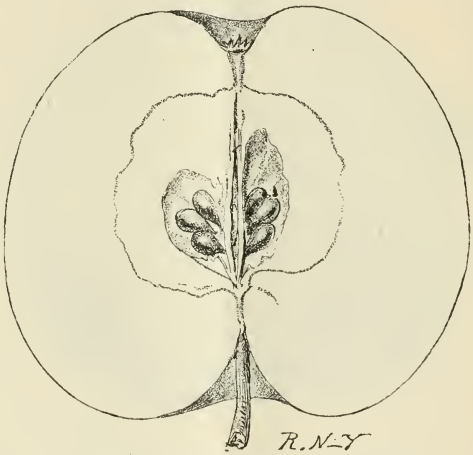


FIG. 37.—SECTION OF PRINCESS LOUISE OR WOOLVERTON APPLE.

Rural New Yorker from samples sent Mr. Carman, the editor, and appeared in that paper under date of Jan. 7th, 1888, with the following remarks :—

"Two Princess Louise apples were received at this office December 1, one of which is shown entire at Fig. 36, and in half-section at Fig. 37. The flesh is white, tender, juicy, with a richer flavor and a higher fragrance than the Fameuse possesses. It is said to have all the good qualities of the Fameuse, besides being handsomer and a better keeper. The skin is as glossy as silk and beautifully marked on a wax-like, greenish-yellow ground with bright splashings of carmine. It is a beautiful, excellent apple, and must prove very popular wherever it shall be found to thrive."

Horticulture in the Schools

THIS was one of the subjects debated upon at our Ottawa meeting, and was suggested by the reading of a paper contributed by Mrs. A. L. Jack, of Chautauqua Basin, P.Q. That something should be done in this direction was strongly advocated by Prof. MacCoun, A. A. Wright, and L. Woolverton, especially in view of the lamentable ignorance of the general public of this department. The result of the discussion was a resolution commending to the consideration of the Minister of Agriculture the importance of some knowledge of trees and shrubs, and of the care of lawns, to be taught not as a set study, but as a recreation; and that to aid in the bringing about of this end, first-class teachers be, after a

certain time, compelled to take a short course at the Ontario Agricultural College; and that the schoolyards be made ample enough to contain an arboretum of native forest trees and shrubs properly labeled.

The English Sparrow.

This bird suffered a shower of well-merited abuse at our winter meeting. A paper on the subject of Economic Ornithology was contributed by Mr. T. McIlwraith, Fellow of the Ornithological Society of North America, in which it was shown that the sparrow not only drives away such birds as the Catbird, the Oriole, the House Wren, Blue Bird, Chipping Sparrow and Yellow Warbler; but also himself is a wholesale destroyer of the fruit buds of the grape vine, peach, pear, plum, cherry, currant, etc., and also garden vegetables. The authority of such eminent observers as J. H. Gurney, Miss Omerod, Prof. Lintner and Dr. Brodie, were adduced in proof of the position taken.

After considerable discussion the following resolution was moved by Prof. Wm. Saunders, seconded by A. M. Smith, and carried unanimously:—"That this Association desires through its officers to approach the Legislature of Ontario, requesting that immediate steps be taken to so modify the law protecting birds as to permit of the destruction of the English Sparrow, including its nests, eggs and young; and further, so as to protect the Great Northern Shrike, the Sparrow Hawk, and the Screech Owl, which feed largely upon the Sparrow."

Mr. McIlwraith's paper will appear in our Report for 1888.

Beds and Bedding Plants

This was the subject of a somewhat lengthy but exceedingly valuable paper read by Mr. N. Robertson, Supt. of the Government Grounds at Ottawa. It was illustrated by photographs showing splendid effects produced with bedding plants, and explaining the manner of arrangement. We hope to have these illustrations copied for our Report. We had the pleasure of a visit to the greenhouses under this gentleman's care, and were much interested in finding one of the most complete collections of greenhouse plants in Canada.

The Peach Crop for 1888.

Those of us who have engaged largely in peach culture are again in despair. Were it some villain who had broken into our houses and robbed us of from one thousand to three thousand dollars each, we might at least hope for the melancholy satisfaction of seeing him safely housed in a dungeon, but when old "Jack Frost" robs us of an equal amount, we can only "grin and bear it" with as much patience as possible.

When the New York *Herald* announced that the entire Hudson River crop was ruined and the growers despondent, we thought it time to examine our own orchard, and after careful examination, must pronounce the fruit-buds destroyed. The same conclusion is reached by most growers in the Grimsby peach region; reports, however, from the vicinity of the Niagara river are more favorable.

Is there not some means of protecting the peach tree, so that at least we may avoid the humiliation of having a large peach orchard, and yet being compelled to buy peaches for our own family use? The most plausible mode of doing this, which we have heard of, is the following by J. P. Macomber, in the *Rural New Yorker*. He says:—My method of training peach trees is shown in the figure, where *a* is the horizontal trunk, *d* a support to keep the trunk off the ground, and *e* a stake to which the upright trunk is fastened. To train a tree, procure one

not more than a year old, plant it where you wish it to stand, and allow it to grow straight up. Once a week all shoots must be broken off as soon as they can be handled. Break no leaves off the main trunk. Keep this up until a month before frost is expected. The main trunk will ripen its wood sufficiently to endure the winter. About the time of the first hard frost, carefully bend the trunk to the ground, and then fasten it there by a hooked stick driven into the earth, as at *b*. When the winter has fairly set in,

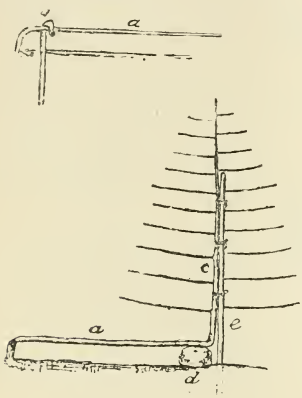


Fig. 38.

place a few evergreen boughs or straw over the whole length of the tree, with some light sticks on the covering to keep it from being blown off. In the spring, when the frost is out of the ground, remove covering and the stick that holds the tree down, and allow the latter to resume its upright position. After it has started to grow, cut off the side branches, leaving but one bud to grow, and treat in the same way as during the previous season. By the fall the trunk will be from six to ten feet high, long enough for a first trial; bend it to the ground and cover. In the spring, leave the tree down, and allow only one bud to grow. This will push straight up and send out branches, only a few of which should be allowed to grow, and they should be trained fan-shaped, parallel with the horizontal trunk. Be sure to have a stout stake driven into the ground to fasten the upright trunk to. Other stakes may be driven along the side of the fan to fasten the branches to as needed. In the fall, loosen the head of the tree from all its stakes, and after placing straw or other material on the ground to keep the twigs off the soil, bring the head down sideways to the ground and fasten it there, then put on the covering. The horizontal trunk can, without injury, be twisted sufficiently to allow the head to lie on the ground, and this can be done for a good many years, for this horizontal trunk does not increase in size nearly so fast as the upright trunk does. It must be protected from the direct rays of the sun, else the bark will be killed all the way along the top. I lost some trees this way. I find the neatest way is to swathe the trunk in straw; with a twine string fasten it to the trunk. Be sure that no water can stand around any part of the tree at any time during the winter. Keep the ground perfectly clean from weeds for a good way from the tree, and mice will not be likely to trouble it in winter, as experience proves that they do not run far on ground that is clear of grass or weeds. Do not cover too early, and do not put on too much covering. This method may appear to require a good deal of work, but when the trees once get into bearing you will find, as I do, that it is considerably less work to put down and cover a tree than it is to prune and cover a grapevine.

QUESTION DRAWER.

Dwarf Apples.

23. On what stock are these grafted, and what is the advantage in planting them?—Wm. Switzer, *Kirkton, (Perth Co.)*

Upon a small foreign growing variety, called the Paradise apple. It is usually propagated by layers, and with the object of using it as stock for dwarfing apple trees, and may be had from any of the large nurseries such as Stone and Wellington, Toronto, or Ellwanger and Barry, Rochester. It is hardy and therefore much used in cold sections.

Dwarf apples may be planted eight feet apart, but for profitable crops they are not to be compared with the standards.

Best Variety of Apples for Perth Co.

24. What varieties of apples would you recommend for profit? They must be hardy.—W. S. Kirkton.

Such kinds as Transparent, Astracan, Duchess, Haas, Wealthy, Scott's Winter. See also Mr. Caston's notes on the apple, page 59.

Treatment of Yearling Apple Trees.

25. What is the proper treatment of young trees the second year after grafting? They have grown up strong and sent up a great many sprouts.—A. C. McDonald, *Dunlop.*

These should be pruned quite early to one straight whip, all suckers and the larger side branches being closely and smoothly removed with a sharp pruning knife. It is best, however, to leave a few of the smaller side branches during the summer months, to induce stocky growth of trunk. They need not be topped back until the spring of third year, which is soon enough to form the head of the tree If some are growing crooked it will pay to cut them back nearly to the splice, and train up a fresh shoot.

Tree Blackberry, Russian Apricot and Prunus Simoni.

26. Do you know anything of these and would they be hardy in Canada.—L. F. Selleck, *Morrisburg.*

The first is a novelty which has not been tested in Canada. If you find it good, please report. We planted two dozen Russian apricots two years ago, and most of them have come through the winters well. Note however that Russian apricot is a wide word, and like the term Canadian apple might mean anything from the poorest to the best quality of seedling. Prunus Simoni is hardy and is desirable where the peach fails.

Catalpas.

27. Is there any difference between C. Speciosa and the Japanese Hybrid Catalpa? L. F. S., *Morrisburg.*

Yes. C. Speciosa, is a variety which originated in the Western States. It is a large tree, hardy, and very valuable for timber, posts, ties etc. on account of its wonderful durability. The Japan Catalpa (Kaempferi) is a small tree of handsome foliage, flowering when quite young.

Tulip Tree.

28. Can you tell me anything about the Tulip Tree. Is it possible to make it grow in Ontario. What soil does it thrive best in? Agnes Bourn.

Reply by Prof. Panton, Guelph.

The Tulip Tree delights in deep, loomy and fertile soils, such as are found in the rich bottoms that lie along the rivers, and on the borders of the great swamps that are enclosed in the forests. It does well out west around Chatham. Trees of it are growing in Normal School grounds Toronto, and some are growing in the vicinity of

Hamilton. With us it died. Our climate at Guelph is too severe.

Apple Trees to Plant for Foreign Market.

29. I have 50 acres in Elgin Co., N. lat. 42° 30', about three miles north of Lake Erie, on which I propose planting an apple orchard for foreign market—say 1,000 trees to begin with. Soil gravelly sand, naturally well drained, and tiled beside. Do you recommend me to plant one or more than one variety?—D. C. LEITCH, *Dutton, Ont.*

MORE than one, because some years one variety succeeds best, and other years, another.

If only one variety, Which would you advise? —D. C. LEITCH.

The American Golden Russet has proved the most satisfactory in our experience. The fruit is clean and even in form, and commands a high price. Some, however, complain of its being unproductive.

If more than one, kindly name the varieties you would recommend.—D. C. L.

For your latitude we would suggest the following list, to be subject, however, to alteration according to the local success of each variety:—(1) Maiden's Blush, (2) Gravenstein, (3) Blenheim Pippin, (4) Rhode Island Greening, (5) Baldwin, (6) Tompkins King, (7) N. Spy, (8) American Golden Russet.

The Bark Louse.

30. What do you consider the best and simplest method of getting rid of the bark louse on apple trees?—W. G. W., *Dixie.*

NOTHING is better or simpler than to take an old broom and wash the trees thoroughly about the first of June with a preparation consisting of soft soap and washing-soda, with enough water to reduce it to the consistency of whitewash. The writer has used washing-soda and water, in the proportion of half a pound to a pailful, with success. See vol. x., p. 133.

Potato Culture.

31. Is it advisable to plant potatoes after strawberries? or do they draw too much of the same substance from it?—W. G. W.

THE ploughing under of the strawberry vines would afford a suitable manure for the potato, if done long enough in advance of planting for their decomposition. Then apply liberally wood ashes, lime and phosphates, which are better for the potato than such nitrogenous manures as are required for the strawberry. A half-bushel of salt to a barrel of wood ashes makes an excellent preparation, a large handful being applied to each hill.

Manure for Strawberries.

32. I have manured my next season's strawberry plants tolerably well with first-class manure spread on the snow. What fertilizer would help them and the best time to apply it? The soil being a deep, rich sandy loam.

YOU can use nothing better than well-rotted barnyard manure for strawberries, unless you can secure dried blood, which is a specific manure for them, because especially rich in nitrogen. This should be applied in the spring. Mr. John Harris, of Rochester, recommends nitrate of soda for strawberries, sown broadcast in spring, at the rate of three or four pounds to the square rod.

The Lucretia Dewberry.

33. Will you give me in your next number of the CANADIAN HORTICULTURIST a plan of pruning the "Lucretia Dewberry." I am pleased with the growth made last season, letting them "go as they please;" but now they are to "go as I please," or I will not have room for them on my limited space.—J. K. MASTERS, *Berlin.*

GROW them in thick matted rows, or beds about four feet wide, cutting them back and thinning out according to judgment. The trailing habit is much in their favor, being a safeguard against the effects of the cold. They may be lifted with a fork, and a heavy mulch spread on the ground, thus keeping down grass and weeds, and raising the fruit from contact with the earth.

Our Nurserymen.

34. Don't you think our nurserymen do themselves injury charging so high as fifty cents each for such apple trees as Tetofsky, Alexander, Haas, etc.? I can buy them from the U. S. at half that price.—J. P.

Nurserymen who sell through agents must keep up their prices at the nursery to correspond with the price lists used by them. Apple trees cannot be sold through agents at a much lower figure, as the nurseryman must pay a high salary to a good agent. But some of our nurserymen who advertise in these columns, sell direct and employ no agents. You can buy from them at as low a price as you can anywhere in the world.

The Burnet Grape.

35. This variety does not ripen with me. Is this a general complaint?—W. W. R., Toronto.

Reply by A. McD. Allan.

Experience has proved the Burnet Grape to be almost worthless in western Ontario, where it does not set fruit properly, and is so subject to the mildew that it is not worth planting. In eastern and north-eastern Ontario it does far better, in many cases being almost as fine as one of its parents (Black Hamburg). Our Association tested it by sending to our members, and thus have saved many a dollar to the grape growers of this province, who otherwise might, on glowing representations, have been induced to plant it largely. See our back reports.

Packages for Apples and Pears.

36. What do you consider the best package for pears and apples? and what size?

Reply by A. McD. Allan.

The matter of packages is a very important one, and one that requires a great deal of experimenting yet before we will have what will be entirely satisfactory both in cost and usefulness. Early and fall apples can be shipped to Montreal and Chicago in barrels very well—of course softer kinds must be taken before quite ripe and must not be delayed in transport. Extra fine samples bring far better prices in baskets, and I have always found our ordinary baskets best for pears. Barrels for our apples should be made nearly straight staved, that is the quarter hoops (which should be thick and strong) should be driven down so near each other as to prevent any swelling of the bilge when the barrel is pressed full. Experience has shown that our Railway Cos. handle the half-barrels much rougher than whole barrels, otherwise the half-barrels would be best. I would suggest trial of bushel, and half bushel baskets for fine apples if they can be obtained strong enough.

The Editor would add that he has for some years practised packing *extra choice* summer apples and pears in peach baskets, for Canadian city markets, and has found them to give the most satisfactory results where the market is not over stocked.

Swanley White Violet.

37. Can you tell me how to make Swanley White Violet flower? About three years ago I purchased some from J. L. Childs, of Floral Park, N. Y., and so far have not had even a bud; have tried them in all soils and places, but no bloom yet.—Levi S. Selleck, *Morrisburg.*

Reply by Frances Mason, Peterboro'

With many the Swanley White Violet is a shy bloomer. A partially shaded locality will be found best, the soil to be composed of peat and about one-fourth sand well enriched with old rotted stable manure, and if planted in a moist situation all the better, or if not, should be kept so. A few drenchings of liquid manure during the growing season will help. After the plants are well established flowers will come.

OPEN LETTERS.

Fruit at Goderich, (Huron Co.)

SIR,—I have a great variety of grapes and have never had one winter killed. The Pocklington I never tried. The Moore's Early, Worden and Prentiss we had of the F.G.A. are all doing well.

Fruit in this section, notwithstanding the dry summer, on the whole did very well, pears I consider were extra good. I found the Beurre Giffard very superior this year, but the Clairgeau was not so good as usual with me.

Of all the magazines and papers I take I value the HORTICULTURIST the highest. I think we get two or three times the value of our money from the F. G. A. together with the premium and report, and now that the magazine is enlarged it is still more valuable. I have been a subscriber for a good many years. I have all the annual reports from the commencement except the first, and all the HORTICULTURISTS carefully taken care of.

Goderich. WALTER HICK.

Fruit at Brussels, (County of Huron.)

SIR,—While enclosing my subscription I would say that I am much pleased with the success and the enlargement of the journal.

Among the many good articles is one by Mr. Bucke, of Ottawa, on Winter Protection. I noticed in my grounds this season that low bushes were the most fruitful; so I have taken Mr. Bucke's plan, and laid them down this fall. But I found them very stiff to bend over, as I had pruned early to cause them to grow low, strong and bushy.

Would Mr. Bucke give us an article in a coming number on how to prune and train rasberry bushes, in view of winter protection and fruitfulness.

Our red raspberries were not very fruitful this season, but the black were a fair crop.

Gooseberries and currants were good. The grapes were better than ever.

The Sharpless and Seneca Queen strawberries did best with us this year. The heat was too great for most kinds of fruit, but for all that we had a fair crop.

Wishing you success in your useful work, and prosperity to the Association. I am yours truly,

Brussels. SAMUEL FEAR.

SIR,—Since writing you yesterday, I received a copy of the HORTICULTURIST in its new form, and I must congratulate you on the grand improvement accomplished, not as only regards paper, cover, etc., but the form that it is in now, gives a better opportunity for displaying cuts, etc.

Although for my own part, I have recommended the HORTICULTURIST, I believe in its new form it will have a better chance to commend itself, which I think the yellow cover does not suggest.

Every endeavour should be made to popularize the paper, as this is the only one that treats of horticulture exclusively, as the other papers are all inclined to pet up agriculture. I do not see why that many hundreds more should not subscribe.

Trusting the success may be as great as it deserves, permit me to remain. Yours truly,

Toronto. HERMANN SIMMERS.

The Golden Queen and Jessie at Mount Forest, (County of Wellington.)

SIR,—With me the Golden Queen has done first-class, and a more severe trial than with me it would be rather hard to find, as my plot is low, and catches frost very easily. I procured six plants last fall and planted them alongside a row of Cuthberts. In spring they came out of the ordeal uninjured, while every Cuthbert was killed to the ground; and then how they bore! and such fine berries that I could scarcely distinguish them from Brinckles in appearance or quality; and let me say the Brinckles Orange is a daisy in quality: but it is such a shy bearer that it doesn't pay where one has a small patch of ground for raspberries. My opinion is that the Golden Queen is *the* raspberry and will stay. I also planted a few of the Jessie Strawberry. Last spring they were about the length of my thumb. I did not expect they would come to anything this season. But to my surprise they buckled to in earnest, and I allowed them to bear one or two each, and (tell it not in Gath) they were the first to ripen out of five varieties! The quality seems also to be good. I think it also a success.

A SUBSCRIBER.

Kind Words.

DEAR HORTICULTURIST,—I feel rather timid about addressing you so familiarly, and especially so since you have assumed your new attire. However, when I tell you that ever since I made your acquaintance I have been a regular reader, and each month look for your appearance with as much earnest as I once watched for the mail with the journals of fictitious stories; and further, when you know with what a keen relish I devour your much appreciated columns, you will then understand why I now take the liberty to tender you my sincere congratulations upon your much improved appearance. I am glad to learn too that I am only one of a large number who take an interest in your welfare, as is substantially evidenced by the increase of your subscription list and the large accumulated surplus in your treasury, which speaks volumes for your management. I trust that in the near future I will have the pleasure of seeing you in all the public reading rooms, and occupying a still more prominent place among Horticultural Journals of the day. In renewing my subscription for another year,

I want to say that I lose no opportunity in speaking a good word for you, and wish you every success. Yours very truly,

Port Elgin. J. H. WISMER.

Forestry.

SIR, I notice a letter in the February number of the HORTICULTURIST, from Mr. Grover, stating that he believed that many crops of timber could be realized upon during an ordinary lifetime.

Permit me to say that I have lately sold timber for ship-building grown from seed on my grounds. I have been planting forest trees of all kinds for forty-two years and can now cut 100 cords of wood from trees planted by myself without missing the trees. If farmers would only plant the waste places, hillsides, roadsides, etc., of their farms, they would in a few years have an ample supply of firewood and timber. I shall be happy at all times to shew enquirers how to plant, what to plant, and where to plant. Respectfully,

GEORGE LESLIE.

Toronto Nurseries.

REVIEW.

Books, etc.

HOW TO GROW STRAWBERRIES. A complete guide to strawberry culture either for pleasure or profit. 32 pages. Published at the office of the *Horticultural Times*, 127 Strand, London, Eng. Price two pence. Written from English standpoint, with varieties and manner of culture adapted to the Old Country gardens

Journals.

THE HORTICULTURAL TIMES, 127 Strand, London, England.

This weekly journal came out with December in an enlarged and improved form.

TILLINGHAST'S PLANT MANUAL, or how to Grow Cabbage and Celery, 32 pp., published by F. Tillinghast, La Plume, Pa., for 25c.

THE GARDEN AND FOREST, a journal of Horticulture, Landscape Art, and Forestry. Tribune Building, New York City.

The first number of this new weekly journal has come to hand, and at once impresses us favorably as being first-class in every respect. Each number contains twelve quarto pages of reading matter by the best American authorities, upon such subjects as Landscape Gardening, Making a Lawn, Hardy Shrubs, Plant Notes, White Pine in Europe, etc. Professor C. S. Sargent, of Harvard College has the editorial control. We commend this journal to our readers as well worth the subscription price of $4.00 per annum.

THE RURAL NEW YORKER, 32 Park Row, New York City, has our acknowledgment for furnishing us with the cuts of the Princess Louise apple used in this number.

Nurserymen and Florists.

LOVETT'S GUIDE TO FRUIT CULTURE. Spring 1888. J. T. Lovett & Co., Little Silver, N.Y., 48 pages—illustrated—seven colored plates.

T. C. ROBINSON'S CATALOGUE of small fruits and grape vines, 1888. Owen Sound, Ont., illustrated—descriptive—colored plate of Golden Queen raspberry. 16 pages.

SPRING CATALOGUE OF NEW STRAWBERRIES, 1888. Matthew Crawford, Cuyahoga Falls, Ohio. A very interesting little book of twenty-eight pages, with directions for strawberry culture. Of the "JESSIE" Mr. Crawford says:—"The best berry for either home use or market, ever introduced.

SEMI-ANNUAL PRICE LIST of American grapevines, grown and for sale by Bush & Son, and Meissner, Bushberg, Missouri.

S. H. MITCHELL'S PRICE LIST of selected fresh Garden and Field Seeds. Box 240, St. Mary's, Ont.

WM. RENNIE'S SEED CATALOGUE, 1888. Descriptive, with directions for sowing. 71 pages.

AMATEUR GUIDE AND ILLUSTRATED CATALOGUE OF FLOWER AND GARDEN SEEDS, 1888. 144 pages. Alphabetical arrangement with botanical and scientific names attached, profusely illustrated. General characteristics described. Address, F. E. McAllister, 22 Dey St., New York City.

WEBSTER BROS., CATALOGUE OF ROSES, DAHLIAS, ETC., Hamilton, Ont., 1888. 40 pages. Descriptive and illustrated. Reasonable prices.

PRICE LIST OF EVERGREENS, Roses, Clematis, Climbers, Shrubs, Dahlias, Herbaceous Plants, etc., cultivated and for sale by A. Gilchrist, Elora Road, Guelph, Ont. 1888. 14 pages.

LITTLE'S CIRCULAR of New Strawberries. John Little, Guelph, Ont.

Miscellaneous.

SCHEDULE OF PRIZES offered by the Massachusetts Horticultural Society for the year 1888. Rules and regulations. R. Manning, Secretary, Boston, Mass.

MISCELLANY.

A Phonetic Garden Romance.

BY CHAS. E. SOULE.

ONE morn I saw a rose of red
With perfume rare and sweet,
In proud obeisance bow his head
Before a Daisy's feet.

The crimson blushes on his cheek
Foretold the mission fair,
And 'ere the Knight began to speak,
I knew what brought him there.

And this is what he said, so low
And sweet was every strain,
That often since I've longed to go
And hear him talk again :—

"Ho, daisy here on bended knee
I supplicate your grace,
This place would MELON-choly be
Without your smiling face.

"For us TO-MA-TO how I long,
Twould fill my life with PEAS,
And I would sing a joyous song
And always have HEARTSEASE.

"To-night LETTUCE attend the ball,
And there we'll skip away,
For one, I do not CARROT all
What anyone may say.

"I'll call for you at half past four
With waiting maid and page ;
But have no carriage at the door,
For this is no CABBAGE.

"Dear Daisy, pray don't be absurd,
My love you need not fear,
For none before has ever heard
Me CAULIFLOWER 'dear.'"

I stood enchanted with the plan,
And heard the Daisy say,
"Can't something TURNIP so we can
Arrange it right away ?

"But then—oh, dear—I want to go,
But what will POPPY say ?
I wish we could just slip a— ; oh !
CANTELOPE to-day."

—*Prairie Farmer.*

THE gardeners in India are all Buddhists.—*Boston Transcript.*

TWO apples kept in a cake box will keep moderately rich cake moist for a great length of time, if the apples are renewed when withered.

PAT, for the first time at a hotel table, saw a boarder reach for the celery several times and placidly proceed to dispose of it. Pat gazed in dismay, and turned to his fellow-countryman with, "Oh ! moi ! he's aitin' the bo'kay !"

APPLE ICE.—Stew and strain one quart of apples, add the whites of two eggs, one pint of rich cream, flavour highly with lemon or nutmeg ; stir into the mixture one quart of milk ; sweeten all very sweet, and freeze as ice cream.—*Maryland Farmer.*

THE steamer *Azorian* has cleared from Annapolis, N. S., for London. He cargo consisted of 7,488 barrels of apples and 52,000 feet of deals. The value of the cargo is $29,000, and it was all shipped over the ice bridge.—*From Sackville Post, March 2, 1888.*

The English Violet.

For the Canadian Horticulturist.

BY M. W. MANLEY, OWEN SOUND.

HUMBLE violet, lowly born,
Well protected from the storm ;
Stooping down, I search and see
Petals blue as blue can be
Covered deep in leafy bed
While a fragrance 'round is shed.
What a lesson you impart
To the proud and lofty heart.
But a semblance here I find
To the pure and noble mind
Toiling on from hour to hour,
Blessing all within its power,
Seeking comfort from above,
Knowing that our God is love.

GERMAN PRUNE.

FOR CANADIAN HORTICULTURIST

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 5.

THE GERMAN PRUNE.

THIS PLUM was so highly commended by the plum growers living in the vicinity of Collingwood, at our meeting there last summer, that we have had colored plates of it printed for this journal that our readers might all have a clear idea of its appearance. Few persons will need to be told of its peculiar adaptibility to drying and preserving, for most of us have seen the dried prunes of the groceries, and enjoyed the grateful sauce made by soaking them in water over night, and stewing them slowly with sugar for about an hour. Preserved, this plum is used by the peasants of Central Europe to spread upon the bread in place of butter, and dried, it is exported in large quantities, especially from Germany, Hungary and Saxony. Indeed, in that country, it is considered the most valuable of all fruit trees.

The German Prune reproduces itself quite closely from the seed, and therefore, has been largely propagated in this way. As a result, quite a number of variations have resulted, and yet all the sub-varieties retain the general characteristics of the parent. It must not, however, be confused with the Italian Prune, or Fellenburg, which is a distinct kind. The common German Prune is thus described by Mr. Downing:—Fruit, long, oval, nearly two inches long, peculiarly swollen on one side, and drawn out towards the stalk. Suture distinctly marked. Skin purple, with a thick blue bloom. Stalk three-fourths of an inch long, slender, slightly inserted. Flesh firm, green, sweet and

pleasant; separates from the stone, which is flat, very long, and a little curved. Good to very good. 10th of September.

There is a variety grown about Collingwood, which is known as Baker's German Prune, and is highly valued. At our meeting there, Mr. Lewis spoke of it as follows:—

I believe the Baker's German Prune is the coming plum in this country, and the one most desirable for planting on a large scale, with a view to shipping. Most of our varieties you have to pick and market the whole business in a few days, or you will have them rotting on your hands; but Baker's German Prune, when fit to market, can be allowed to hang on the tree and await the market for three or four weeks without injury to the plum itself. Another thing; when you are overloaded, and have a large quantity of plums that you cannot market anywhere else, it is a freestone, and can be easily pitted, and when evaporated, or dried in any other way, is a good salable article, and desirable for that reason. Another point in its favor, in my experience, is, that they bear every year. With me, they have borne every year for six years, and the present is the first year in which there has been a partial failure, and that I attribute to the heavy crop of last year. There is a lady at Nottawasaga, named Mrs. Rose, who has marketed from a few trees a large quantity of these German Prunes yearly in this place, and who, I venture to say, has netted more money from her orchard of plums, in proportion to its size, than any other person in this country.

A GREAT BOTANIST.

Prof. Asa Gray, of Harvard College.

LIKE the shock which is caused by the death of some dear friend, was the sensation experienced by many of us on seeing the announcement of the death of Prof. Asa Gray, the most widely known and esteemed of all modern botanists. How many of us conceived our first love for Botanical Science through the study of his "Lessons in Botany," and in later years find in his "Structural and Systematic Botany," a rich treasury of information. And because the study of Botany has contributed so much to the progress of Horticulture, revealing to us the nature of plant life, and thus placing us in a position to the better care for the useful, and to more effectually destroy the injurious, such as the apple scab, the plum knot, the grape mildew, etc., therefore we consider it quite within our province to pay a last tribute to one so noted in this department. His death occurred at his home in Cambridge, Mass., on the 31st of January last, of paralysis. He was the son of a farmer, and was born in Oneida County, N.Y., in 1810. While still a medical student at Fairfield, he became acquainted by correspondence with Dr. John Torrey, Professor of Chemistry in the College of Physicians and Surgeons in New York City, who was also a writer on Botanical Science. Through this acquaintance it was that Prof. Gray received much encouragement in a line which soon became his chief and special study, and which has opened up for him so brilliant a career. For thirty years, from 1842

FIG. 38.—PROF. ASA GRAY.

until 1872, he was Professor of Botany at Harvard and director of the Botanic gardens. During this time, he collected and prepared a magnificent herbarium of 200,000 plants, which he afterward donated to the college. We have no room here to refer to his numerous and valuable works, which will still remain to hand down his name to future generations. Prof. Gray was a farmer's boy, and his achievements illustrate the possibilities within reach of the industrious aspirant whether he be rich or poor, city or country born.

Through the courtesy of the *American Florist* (of Chicago), we are able to give our readers a most excellent engraving of Doctor Gray, which was originally prepared at a cost of some eighty dollars. It represents to us a genial face and an amiable disposition, such as one might expect to find in one who makes Nature his study, and who recognises in Nature's beauties the handiwork of Nature's God.

STRAWBERRIES.—OLD AND NEW.

BY JOHN LITTLE GRANTON, ONT.

PROBABLY no department of horticulture has received greater attention within the last decade than strawberry culture. The production of new varieties by cross fertilization between those bearing the largest and those of the finest flavored, has engaged the attention of the most scientific and careful cultivators, until this noble fruit has been brought nearly to the ideal of perfection.

The strawberry, among fruits, is more than the rose among flowers. I love it. I have a fondness for the broad leaves that defy the frosty breath of winter, for the pure white blossoms that cheer us first in spring, and for the fruit that breathes the perfume of paradise. Man may construct steamships and railroads, disembowel the earth for ores, measure the mountains of the moon, and make his voice heard across old ocean, but *God* alone can make a strawberry.

There are many things to learn in connection with growing the strawberry, and the most experienced growers are always learning; still this need not deter the beginner from entering upon an occupation which is delightful alike for the young, middle-aged and the old.

Small fruit growing has many advantages over any other occupation. A poor man, woman or child can engage in it and become his own employer. Women have made successful florists, and can make still more successful fruit growers. The labor is light, pleasant, and healthful. It brings one in contact with nature when she is at her best. When wintry winds howl and the earth is locked in icy fetters, the fruit grower can use his well-earned leisure as suits him best. If rain stops his work it is little matter, for the thousand rootlets of his plants are working for him day and night.

In growing strawberries, use rich soil, give good culture and grow in matted rows, not too wide. Hill culture is not profitable for market purposes. Plant in spring. I would advise beginners to set few varieties, and such as Crescent, May King, Covil, Ontario and Mount Vernon for medium early; and Manchester and Sucker State for late. The first three are the earliest berries grown; the Ontario has no white tips. I was the first to fruit it in Canada, and those who have it with white tips have not the Ontario.

For others who like something large, beautiful, and grand, I will head the list with two of Crawford's seedlings, viz.: Summit and Crawford (not for sale); next, Jessie, Bubach, Logan, and Ohio. I saw the Jessie and seventy other seedlings alongside of it in June last at Mr. Loudon's home in Wisconsin. I have seen many a grand strawberry sight, but that excelled anything I ever saw; they lay in heaps there as large as the peach and plum, and not a small berry among them.

If spared, as I am testing over twenty new seedlings, and have fruited some of them twice, I will give to any subscriber to THE HORTICULTURIST who would like it, the truth, and only the truth about them. They do not get any favor shown them more than the ordinary kinds receive, such as Crescent and others. There are some of them that will displace many that are now pushed to the front. When the berry season comes, if spared, will be pleased to have a visit from you, Mr. Editor, or others who are interested in the strawberry.

My plantation is not large, but I have the largest number of seedlings in the country.

7th March, 1888.

HORTICULTURAL REMINISCENCES.

BY GEORGE LESLIE, TORONTO, ONT.

THINKING it would be of interest to the readers of the CANADIAN HORTICULTURIST to know something of the beginning of planting and fruit growing in Ontario, when nurserymen and seedsmen were very few and very far between, I take the liberty of jotting down and sending you a few remembrances of those early days. Having received a few orders from some gentlemen in Toronto for trees and plants, and being requested by them to go to the United States and bring back some nursery stock for sale, I made a journey to New York in October, 1838. When I arrived there, I was directed to the Harlem Nursery, owned by Mr. Parmentier. I went there at once, and found he had a good assortment of ornamental trees and shrubs, but no fruit trees of any kind, except some dwarf pears. I bought some ornamental trees and shrubs, and then went to Wm. Reid's nursery, Murray Hill, N.Y., where I purchased some apple and cherry trees. I then went to Wm. Smith's seed store on Broadway, New York, where I purchased a modest stock of seeds and a few Norway Spruce, fifteen inches in pots, the first Spruce that had been imported from the Old Country for sale. I next visited the nursery of Buell & Wilson, at Albany, N.Y. It was a small concern, they just beginning business. They had a good stock of plums and moss roses, of which I purchased a few. I then went to Rochester, where there were no nurseries at that time, except a very small one about one acre, just started by Samuel Moulson, at Bull's Head, Buffalo street. I went to see his place, but he had nothing that suited me. Messrs. Boardman & Kelly were then commencing a nursery business at Brighton, about three miles east of Rochester, but they had nothing large enough for my purpose. I was informed that Asa Rowe had a nursery at Greece, five miles south-west of Rochester. I visited his establishment, and found he had some nice apples and cherries, but no plums or pears. I bought some apples and cherries from Mr. Rowe, who was a fine genial man. I had all my purchases packed and shipped to Rochester. I came with them to the east side of the river, near the bridge where horse tramway ended. Came by tramway to the landing, three miles from Rochester, where there were 1,000 steps going down to the river. A tramway, worked by horse-power, conveyed passengers down to the landing and up to the street, one car going up while the other went down. There was then no landing at Charlotte. I stayed at the landing a day and a-half, waiting the arrival of Capt. Voller's schooner, the only vessel then plying between Rochester and Toronto. I got my packages on board the schooner, and after twenty hours' sail arrived in Toronto. The next spring I made another trip in search of nursery stock, of which I will give you an account again.

GIRDLED TREES.

BY S. P. MORSE, MILTON.

EVERY now and then somebody tells, through the press, how to repair this injury. Diagrams are given showing how to insert the bowed "twigs" or "sprouts," see figures 1 and 2), looking when done like the curved meatless ribs of something already dead or of some strange fossil not yet classified. Many years ago I abandoned this clumsy mode for the following reasons:—1st. The slips inserted to conduct the sap from being

bowed outwardly, are liable to be displaced by the passing plow, harrow, cultivator, or even animals or careless persons. 2nd. The slips are in that form too much exposed to the weather, and in danger of drying out. 3rd. A large hollow or space is formed between the curvature of the slips and disbarked trunk wherein wet collects, remains, and establishes decay. My mode, practised for years, is as follows: Take *straight*, vigorous, well-ripened wood, of last year's growth—draw with pencil and straight-edge two vertical and parallel lines, one-half inch apart on the gnawed trunk, and for two

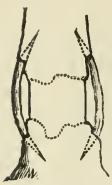


Fig. 39.

Fig. 40.

inches above and below. With a half inch gouge take out the gnawed wood between the parallel lines to a depth sufficient to about half-bury the slip; next, with a sharp knife, cut through the bark on the parallel lines an inch-and-a-half or two inches above and below the groove made with the gouge, with a half-inch chisel lift carefully, but do not destroy or break the tongue of the bark between these parallel lines. If early in the season the bark will not readily peel and the sharp chisel must be used to separate the liber or inner vital bark from the wood, yet a few fibres remaining and still adhering to the wood will do no harm. Form the slip thus :—

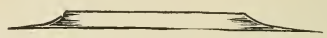


Fig. 41.

Lay the shorter side in the groove above named bringing the sear-fed or feathered ends to rest upon the living albumem above and below, bring down the tongue of the living bark that was raised with the chisel upon the ends, fastening firmly with strips of old leather, kept in place with carpet tacks. Iron is not unfriendly to the apple wood; besides, as growth proceeds they will be thrown out. Wax well to make air and rain proof. When the girdling has been done near enough to the ground to admit of banking up with earth, I use no wax at the lower insertion. Done in this manner, success is certain—the slip acquiring a thickness of from one to two inches the first season, and causing the tree at that part to look fluted and neat—almost ornamental compared to the old way.

THE MILLS.—A NEW GRAPE.

WE are indebted to Messrs. Ellwanger & Barry, of Rochester, for the accompanying cut of the new grape, which is offered for sale this spring for the first time. The Mills is a Canadian seedling and was raised by W. H. Mills, of Hamilton, Ont., a gentleman who has in time past done much to forward the interests of our Association. The object was to produce a variety possessing the high qualities of the foreign grape, in addition to the vigor and productiveness of a native, and in this it appears that Mr. Mills has been successful. It is a cross between the Muscat Hamburgh and the Creveling, and the berry is large, jet black, and covered with a thick bloom. The flesh is described as firm, meaty, juicy, breaking with a

Fig. 42.—The Mills.—A New Grape.

rich, sprightly flavor. The skin thick; berries adhere firmly to the peduncle. The bunch is very large, compact, shouldered, some clusters weighing over twelve ounces. The vine is said to be vigorous, and productive; foliage large and healthy. The time of ripening is about with the Concord, and it is a long keeper.

We shall be pleased if the experience of Canadian fruit growers should prove it to be what the description leads us to expect, one of the best of black grapes for dessert purposes.

SCHOOL DECORATION.

BY N. ROBERTSON, SUPERINTENDENT GOVERNMENT GROUNDS, OTTAWA.

I WAS very much pleased with some remarks that were made by members of your Fruit Growers' Association at its meeting in Ottawa, over this subject. It is one that needs stirring up. I happened to be placed in a school in Scotland where School Decoration was made one of the principal features. When I look back on the appearance of the school, now many years ago, and compare it with our present country schools, for to them do my remarks most apply, it makes one feel sad. Where the very first branch of intellectual teaching should be exemplified, what do we find? delapidated, untidy surroundings, where tidiness and neatness should exist, and make a lasting impression of tidy habits adorning their future homes through life. We are very apt to forget that those early impressions cling to us with more tenacity than many other circumstances in life, and have a bearing in moulding our habits more than those received at any other time. They should not be placed on a level with things we see, and do at more mature age.

Now I will give you a short synopsis of how this school decoration was done at the school at which I was fortunate in being a scholar. It was situated sixteen miles from the city of Aberdeen, Scotland, and called the Kemnay Academy (Kemnay being the parish name). The teacher was a self-made man and devoid of all formality of forms, which often become tedious to children, as well as older persons. Surrounding that school was the playground, and the decoration and keeping of it was made a means of profit and pleasure in play hours. There were about two acres of ground, which was more than the general school allowance. In what way he got this addition, I am not able to say, but suppose it must have been through the generosity of the proprietor who took a lively interest in advancing education. And well might he be proud of the results, for I cannot compare that school to anything less than the appearance of a gentleman's residence, and an ornament to his estate. You can imagine the effect it produced on those little hearts, entering such a place, made beautiful by their own hands, for they planted and kept it in order in their play hours, a source of much pleasure to them. They felt proud of such a school.

Now, the very first objection that will be raised against school decoration will be expense, often a great barrier to instruction, but here this objection does not exist, for the children did the work and furnished the material for decoration. All the teacher had to say was, "if you have any trees or plants that you would like to see growing here bring them along and I will find a place for them, provided there are not too many of one kind." Numerous were the memorial trees and shrubs brought to that lawn. It is hardly

necessary to say with what delight children will do such a thing as this, for we all know how they enjoy it. Fruit growing was the subject least taught but not neglected, for many specimens were cultivated on the back part of the ground. The lawn was frequently made the schoolroom in fine days, for he would take those children out doors to learn and recite their lessons.

I do not give you all this as being a sample of Scotch schools. I am sorry to say that they were much on a par with the general appearance of our Canadian country ones. This was an exception to all others. Neither do I give it as an example and say all others should follow it. I certainly do, where this could be done, but there are many schools so weak that it could hardly be within their power. But there is none which could not have trees and shrubs to add beauty and pleasure to the surroundings. Another point that may be argued against this work, and has been urged, is that the children will soon destroy it. Well, all that I can say in vindication of this is, I never saw any tendency to do this, not even a foot-print in the borders of flower beds that surrounded the walks. I have often thought that such training might be a means of preventing much destruction on roadways and streets in cities now done by children who have never been taught to respect lawns and borders.

Now, what can be done about this matter? Let the attention of the Minister of Education be called to it. He, being a man of enterprise, will see at once the necessity for this much needed improvement. Were the same means provided as are now in existence for planting trees on roadways, that itself would be quite an improvement in the regulations, and also that a certain quantity of land shall be necessary to each school according to the number of scholars that attend it. Even prizes might be offered to schools having the best and neatest kept grounds in each municipality. No one can fathom the immense benefits that will accrue to children from such things as this.

An Ornamental Mound, which in its simplicity, we are satisfied would prove handsome, is thus described by an English exchange:—"The centre is occupied by the German Flags (*Iris*), intermixed with Striped Ribbon Grass (*Phalaris arundinacea*), and the rather steep sides of rocks are clothed with irregular clumps of Perennial Candytuft, (*Iberis sempervirens*), flowering freely. The white flowers of the latter, the blue flowers of the flags, and the white-striped leaves of the grass harmonize most pleasingly."

NOTES ON MARCH NUMBER.

BY D. CAMPBELL, LONDON, ONT.

In looking over the March number of The Horticulturist I see Mr. Maddock says the gooseberry is often stripped by the caterpillar. That should not be, or there will be a poor crop next year. I prefer putting hellebore on with water, as it can be done at any time, a tablespoonful to a patent pail of water, and put on with a fine rose sprinkling can. Also, I find a teaspoonful enough of paris green to a patent pail of water to kill any insects. Even that much is too strong for hops, for mine were browned with it by one application.

As to asparagus, I am afraid Mr. Bruce's directions would keep many from growing it. As I have been very successful with it, and I will give my mode: I manured and trenched two spades deep, and laid it off in four feet beds, three lines in a bed, old country

fashion, putting the plants one foot apart in the line and the crowns three inches under ground. The second batch I planted I merely digged the ground with plenty of manure, having lines eighteen inches apart, and planting a foot apart in the line, using two-year-old plants, though one-year-old would give less work. I commenced to cut a few stray ones the second year. The third year I cut all until June. I let them grow up the first week of July, as soon as peas became plentiful. And as soon as the seed ripened I cut down and top-dressed them with about six inches of manure. In the spring I take off the roughest, and put on one bushel of salt to one-eighth of an acre, the size of my patch, and with a fork stir up the surface, not to interfere with the plants. You will not have any trouble with weeds after so much salt. I continued that course for twenty-five years, and my asparagus constantly improved. I have often put as few as five stalks in a five-cent bunch, sometimes only three. My land was sandy loam. I sold out the land in building lots several years ago, but they have the asparagus as good as ever, and when digging a cellar the roots were down six feet. I made $100 a year off my asparagus, and $100 off a patch of gooseberries of about the same size or rather less, often having half-a-bushel on one bush. I forgot to say that when I ceased cutting the asparagus, I hoed and raked the ground level, giving it a good appearance.

AN IMMENSE FOSSIL TREE

BY J. H. PANION, M.A., GUELPH, ONT.

IN a former communication I described an immense vine now growing in the Vinery at Hampton Court; in this, I purpose placing before the reader some information about a fossil tree, said to be the largest ever found. It was discovered in the lower coal measures in a quarry at Clayton, near Halifax, Yorkshire, England, and attracted so much attention that people travelled miles to see it, in fact, the proprietor of the quarry made more from exhibiting it, as found in its stony bed, than from the stone quarried near it. A penny admission was all that was asked, and thousands of people threaded their way up the hill to the quarry to get a glimpse of this monster, a silent monument of the rank vegetation that characterized the forests of the coal-forming period in the earth's history. The writer had the pleasure of seeing this wonderful relic in August of last year. It was discovered twelve feet below the surface of quarried rock. The stump was imbedded in sandy shale, while the roots rested on a bed of soft blue shale, which some of them penetrate.

The stump is three and three-fourths feet high, diameter one way being four and one-half feet, the other three and five-sixths feet, thus forming a sort of oval outline.

The roots are by far the most interesting, and serve to identify it as belonging to the genus Stigmaria.

The specimen is admitted to be the finest of its kind hitherto obtained in any part of the world. It demonstrates that Stigmaria is a root and not a root-stock; that the four primary roots radiate from the base of an erect stem; that each of these roots divide into two forks close to the base of the tree, and that beyond the second branching no further divisions take place; from that the undivided roots extend to considerable though varied distances.

The following measurements, taken

with great care, will give an idea of this gigantic fossil wonder:—

Eight roots.	Diameter close to stump.		Distance from stump to branching of roots.		Distance from fork to end.				Greatest length of root.	
					Right fork.		Left fork.			
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
1	1	9	4		9	6	13		17	
2	1	5½	4		8		6	6	12	
3	1	4	5		7		4		12	
4	1	4	4		2		4	6	8	6
5	1	5½	7		1	6	3		10	
6	1	6	5	6	3		4	6	10	
7	1	5	7	6	3		2		10	6
8	1	5	7		9	6	7		16	6

The diameter of the area covered by the branching of the roots is, from north to south, twenty-nine feet six inches, and from east to west, twenty-eight feet, giving a superficial area of 826 square feet.

So here we find a tree, which has been entombed millions of years among the shale in which it is embedded, now recalling to us the waving forests of carboniferous plants whose remains, during vast periods of time, have changed to coal—forests in which every shade of green was present but not a single flower. Animal life was represented by comparatively few species, and the climate was adapted to the production of a rapid, luxuriant vegetable growth; which, as it accumulated, changed to coal, and thus formed the vast sources of the energy required in our progressive age—coal as the bottled energy of the past, and to-day we are taking it out from the vast storehouses (mines) to apply it to practical purposes.

To the most indifferent, this "stoney tree," or better, stump, becomes an object of great interest, and to the contemplative mind, one of great instruction.

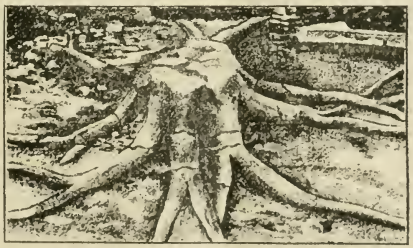


Fig. 43.—An Immense Fossil Tree.

FLOWERS

ROSE NOTES.

BY THE HON. MRS. LAMBERT, NEW EDINBURGH.

(*Concluded from April number.*)

HER MAJESTY, which created such a sensation in the rose world some years ago, seems, from all accounts, never to have bloomed in Canada. I have one bush that came from England two years ago. It has grown vigorously from the first, and last summer it blossomed. The bud was very much larger than the buds in the colored picture with which we are all familiar, in fact it was so much larger than any rosebud I have ever seen, that a perfectly true description of it would be quite incredible. Hundreds of people came to see the marvel, and the rose itself proved quite in keeping with the bud, the beautiful reddish tea foliage making a lovely finish to the spray when in its full beauty. But the mildew! worse, even, than the Giant de Battailles. It yet remains to be seen whether this perfectly peerless rose can be grown in a wholesome condition. If not Mr. Evans, of Philadelphia, who paid so much for a monopoly of Her Majesty, will have more greatness in his possession than may be to his benefit.

Merveille de Lyons (that splendid, huge, hardy, perpetual, perfect, white rose), has now been quite long enough in cultivation to be more generally known than it appears to be in Canada, and the roses that our grandmothers grew, and which can never be other than lovely, are still enumerated among the suitable roses for us to grow,—of course they are, but we all know that, and now we are asking for the results of experience as to the most reliable of the newer varieties. George Paul, Ellwanger and Barry, Peter Henderson all give lists which no collection should fail to contain. These lists all differ somewhat, but *all agree* that Charles Lefebre, the large, fragrant, dark velvet vigorous rose is the grandest of roses, and that everyone should have all that Baroness Rothschild sisterhood, its members being Mabel Morrison, White Baroness, Merveille de Lyons, Baroness de Rothschild, Mme. Massicault and Baroness Nathaniel de Rothschild. Also that La France must be included, and Alfred Colomb, and Capt Christy and Pierre Notting and Magna Charta and—but what is the use of enumerating lovely and inviting varieties on which we might wish to try our skill, when the nurserymen have combined against us; and it is simply impossible to know what rose you have until it blooms. The fact that you order Louis von Houtte, and that the rose you get is labelled Louis von Houtte is of no importance whatever, for, is not Louis von Houtte a difficult rose to grow and to propagate, and does not the bloom of a Jacqueminot correspond to the printed description of a Louis von Houtte; and if you don't known the difference you will be highly pleased at your own success in growing a rose which all authorities pronounce a difficult floricultural task, and so both you and the nurseryman are benefited,

are you not? And is he not really after all a real benefactor—opinions may differ, we rose lovers don't agree with him, but there seems to be no help for us, the business is practised so systematically and so universally. If you order a Mme. Norman as I did one season from three different firms in Canada and the United States—you will be likely to get, as I got from all three, Coquette des Blanches. I had already five Coquettes, but that was of no consequence to the noble army of nurserymen, who, in their wisdom had decided that it was better for me to have another than the frail and lovely Norman. For Gabrielle Luizet I get La France, and would one not be very unreasonable not to think that quite near enough. For A. K. Williams, Francois Michelon, Julius Finger, Countesse de Sereneye, etc. You never are sure what you will get—anything will do for an order for one of these. I must, however, make one notable exception—I have never had a rose untrue to name from Ellwanger & Barry, of Rochester, but their prices and the duty and freight make their roses just double the price of English roses, while their stock of the new roses is quite too far behind the times. After years of martyrdom I have found relief and satisfaction, and reliability and cheapness in English roses, which, at one shilling (24 cents) each, for large bushes (guaranteed true to name), when several combine an order, supply one with the very choicest stock at nett price of forty-three cents per bush. George Paul, of Cheshunt, Herts Co., Wm. Paul, of Waltham Cross, Herts Co., Benjamin Cant, of Colchester, Essex Co., and Geo. Prince, of Oxford, Oxford Co., (who grows exclusively on seedling briar), may be implicitly relied upon.

In closing I would recommend those who have failed to coax such weaklings into vigor as Louis von Houtte, Marie Bauman, A. K. Williams, Julius Finger, Francois Michelon, Xavier Olibo, and a host of other beauties, when grown on their own roots, or on the manetti, let me beg them to get these from Prince on the seedling briar and await the result without fear of disappointment.

CULTIVATION OF ASTERS.

BY HERMANN SIMMERS, TORONTO.

NEARLY every person is more or less acquainted with the growing of Asters; but to give a brief sketch of their general mode of culture is all I wish to attempt, hoping that the reader may benefit by the advice. In the majority of cases the amateur sows the seed in the open air as soon as the weather is warm enough, but that way is not so sure of obtaining a perfect flower, because in many cases the plant has hardly time to thoroughly develop before our early frosts come and nip them off, also because in sowing in the open air the plants are often not transplanted from the place where they have been sown, and they throw up a small stem, with a small flower. The sower frequently blames the seed, when on comparison with others he finds his flowers so much smaller. In order to obtain a robust, healthy plant the best mode is to start the seed in the house, conservatory or hotbed. Asters rank amongst the most beautiful of half-hardy annuals, and whether grown in pots for the window, in beds as decorative plants, in choice soils for the production of exhibition flowers, or in out-of-the-way spots, to furnish an abundance of cut flowers, they are full of beauty and

usefulness. The Aster includes several divisions, German catalogues representing as many as twenty-five distinct types, but the most striking of them are the flat petalled reflexed blooms as represented by the Victorias; the incurved varieties as found in the Paeony-flowered section; the quilled forms as found in the globe-flowered strain; and the dwarf or minature forms, comprised in the bouquet classes, which are more effective as edgings to beds than the taller variety. As a half-hardy annual, seed should properly be sown in a hotbed in the month of April, and when large enough they should be pricked out into a cool frame, and planted in the open air about first of June, with nice balls of soil, and be placed in beds as required. For an ordinary flower-bed the soil should be dug deeply, and receive a good dressing of manure; into this the plant should be placed about one foot apart each way, and by the end of August a mass of brilliant flowers is sure to follow. I would strongly recommend Truffault's Paeony-flowered Aster, either in collection form as they are originally sent out from Europe, or the mixture of same, as the most satisfactory for the amateur to grow. It is well to pinch out the centre buds in all plants as soon as developed (they are generally semi-double) and also to thin the remaining ones down to about four or five for each plant, and in consequence these will be perfect blooms. If the plants have been placed in a separate bed, and they show a tendency to begin flowering about the middle of August, a thin shading may be erected over the bed, in consequence of which they will retain their beauty until the frost comes. I have seen this tried by lovers of the Aster, and can strongly recommend it to those wishing to keep them flowering for an extended period. Seed should not be saved from the plants and grown on the same soil the following season. In order to obtain large and perfect flowers each season, seed should always be changed—in Asters more particulary so.

Fig. 44.—Victoria Aster.

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

OUR JOURNAL is still too small for our needs. Every month a large amount of valuable matter is crowded out for want of space. We look to our readers for continued effort in extending our subscription list, so that the means may be in our hands for enlarging our journal by adding more pages.

BACK NUMBERS may still be had, so that new subscriptions may all begin with January number of the current year. Should any one fail to receive his copy regularly, a card sent to this office will secure all missing numbers. The mailing is done from Toronto, and we shall be glad to be informed of any irregularity.

THE SUMMER MEETING of our Association is to be held in Picton, Prince Edward County, about the first week in July next. Questions for the Question Drawer of that meeting may be sent in at any time to the Secretary, at Grimsby, Ont. They will be answered by the most competent men present and add much to the interest of the meeting. Mr. P. C. Dempsey, director for Prince Edward County, writes that there is every reason to expect a successful meeting. The programme, with other particulars, will appear in June number.

A DOMINION FRUIT GROWERS' CONVENTION.—As a result of a conference between the directors of our Association and the representatives of the Fruit Growers' Association of Quebec, who met us at Ottawa last February, it was resolved to attempt a grand convention of fruit growers from all parts of the Dominion, to be held some time next winter in Montreal. With this in view, it was ordered by our directorate that since in the opinion of this Association it is very desirable that a convention of all fruit growers' associations and of all interested in the progress of horticulture in Canada should be held at an early date to confer with regard to this one of the most important industries of our Dominion, a committee from this Association be appointed to consult with the Fruit Growers' Association of the Province of Quebec, asking that body to take the initiative in the matter. It was

further ordered that the Executive Committee constitute the Committee of Consultation. Since this action a copy of a resolution passed by the Fruit Growers' Association of the Province of Quebec has been received, approving of our action, and appointing a committee of preliminary arrangements.

Notes and Comments.

Prospects for Apple Growers.—We do not believe in describing the bright side of fruit culture and keeping in the dark the many failures and disappointments which are the common lot of us all. But we do condemn as very foolish the cutting down of a good apple orchard in order to devote the land to any other crop. We believe the prospects to-day for profitable apple culture are as good as ever, but in order to make the best of it, more care than formerly needs to be paid to selection of varieties and to culture. Apples just now are very high in price in London, England, and any one who has fine russets to forward will realize long prices. Indeed, according to the *Horticultural Times*, choice apples are now retailing there at from $1.50 to $4 per bushel. Now if our Canadian growers could but place their choice fruit more directly into the hands of retail merchants in England, instead of going through the hands of so many middlemen, each of whom pockets a share of the profits, then apple culture would soon prove one of the leading industries of our land.

Crop Prospects.—As we stated in last number, most of the peach buds are killed at Grimsby, possibly one in a dozen having escaped. Mr. E. Morden, of Niagara Falls, reports them all sound there. Mr. Henry Willson gives the same report, concerning Winona. We shall be pleased to receive reports of fruit prospects from all parts of the Dominion. We want this journal to become a means of reliable communication between fruit-growers and fruit-buyers.

The Agricultural College at Guelph deserves to be better known and appreciated. It is particularly adapted to the needs of young Canadians who have been brought up on farms and need to know the scientific principles of farming and fruit growing, and to be prepared for the more intelligent operation of these departments. Prof. J. H. Panton, M.A., has charge of the classes in horticulture, botany and entomology, and is evidently creating much enthusiasm among the boys in these subjects. Such subjects as the plum knot, wheat rust, etc., are taught by him in a practical manner by the aid of a powerful microscope, which shows the minute spores, and, indeed, all stages of the development of these tiny organisms in the clearest possible manner. The students too are trained to mount subjects for themselves and to purchase and manipulate microscopes, so that they are able not only to follow out the whole life history of such minute fungi, but also to pursue independent investigations. We are in an age of specialties. The successful farmer and fruit grower of the future will be those who take advantage of such opportunities of training for their work as may be had by a course at the Agricultural College at Guelph.

Arbor Day.—The first Friday in May has been set aside by the regulations of the Education Department as Arbor Day for the beautifying of school grounds. We venture to hope it will become yearly more popular. Trustees may do a good deal in the way of encouraging the profitable observance of this day, but upon the teachers themselves, after all, must this responsibility chiefly rest. The difficulty is that the teachers themselves as a rule know little, if anything, about trees and shrubs, or about laying out school grounds with walks, lawns, or flower beds, and before they

can generate in their pupils an enthusiasm over these most practical and useful studies, they must themselves be trained. Why should not every school yard in the Province be ample enough to contain labelled specimens in groups of the most of our indigenous trees and shrubs, and in other respects be a pattern to every farmer of how best to decorate his lawn.

Bulletin 33 of the Agricultural College of Michigan, contains some useful hints for Arbor Day, and among others a most interesting exercise for school children for that day, which is both interesting and instructive. It is entitled a Convention of Forest Trees, in which the White Oak is elected chairman and calls upon the various other forest trees for an account of themselves. The exercise is varied with music referred to as the singing of the birds, and quotations from poets and other literati upon the various trees and their beauties.

The Mann Apple.—Dr. Hoskins, of Vermont, says of this apple, that the statement of its being as hardy as the Duchess is utterly false, as it will not endure a severe winter there. We have never been much taken with this apple, for though an early and abundant bearer, and a good keeper, the fruit is by no means attractive, and is liable to drop early from the tree.

Peach Yellows.—The experience of many American peach growers seems to favor the use of bone and potash fertilizers as a specific cure for the Yellows. Mr. J. H. Hale, of Connecticut; Mr. E. Minch, of the New Jersey Horticultural Society, and Mr. Baker, all agree in stating that they have been successful is curing Yellows in this way.

Branches of the Experimental Farm.—At a farmers' institute, lately held on Long Island, the question was raised, "Why should there not be a branch of the New York experimental station upon Long Island?" A similar question might well be raised in Canada. While it is most important to test hardy fruits, it is quite evident that in the Department of Horticulture there are a very large number of tender fruits that cannot be tested at all at Ottawa. In this respect, there is a very large part of Ontario which can receive no benefit from the experiments in this line, until some branch fruit gardens are established in at least two or three different sections of our Province.

Paris Green may be used in much less quantities than is generally supposed, and still be effective. The R. N. Y. has thoroughly mixed one pound of Paris green with an entire barrel of plaster, and found it effectual in killing potato beetles.—The writer uses only from three to four ounces to fifty gallons fo water for spraying apples for the Codling moth, and finds it effective.

The Industry gooseberry has been found to wildew at the New York Experiment Station.

Russian Cherries.—At the Toledo meeting of the Ohio Horticultural Society, Mr. Weltz stated that he had fruited some Russian cherries during the previous summer, and found them a good fruit, of the Morello character. As they ripened slowly and were much preyed upon by the birds, he had tried protecting the tree with musquito bar netting, which he found it easy to do as the trees were mere shrubs. He found the fruit very sour until fully ripe. The same gentleman also spoke of the Russian tree gooseberry, which was grafted on the Ural mountain currant several feet from the ground. He had seen trees two inches in diameter and seven feet high, bearing two or three bushels of berries as large as a walnut.

A New Strawberry.—Mr. Thomas Laxton, seed and novelty grower, Bed-

ford, England, sends us a colored plate of a very fine new English strawberry of enormous size, called *Laxton's "Noble."* In form it is nearly globular, of a shining crimson color, and a rich vinous flavor. This strawberry, it is claimed, brings from 75 cts. to $1.00 per lb. in Covent Garden. We might indulge in golden dreams had we such a market in Canada.

The White Pine.—Mr. H. Mayr, of Tokio, Japan, writes in the *Garden and Florist*, lauding Pinus Strobus, as the most valuable of Conifers for rapidity of growth, and for an annual increment of wood. In Germany, where there is a pure forest of this pine, 300 acres in extent, portions of which are 120 years of age, it has been found that at the age of eighty years the White Pine equals in size a Scotch Pine of 120 years' growth ; and further, that at the age of seventy years a forest of White Pine gives an annual increase of three cords of wood per acre, while one of the Scotch Pine gives only a trifle over two cords.

Fruit Reports.—An unusual quantity of dishonest packing appears to have been practised by apple growers and shippers, during the past winter, and as is usual such a practice brings its own punishment. Heavy shipments of inferior fruit faced up with two or three layers of extra quality, have been made to England, owing to the great demand there for fine American fruit, but the sham was discovered and the shippers lost heavily. When will the lesson be learned, that even upon the low ground of policy alone it pays to be honest. First-class fruit is in good demand in Canadian as well as foreign markets, and fancy selections are now worth from $4.00 to $5.00 per barrel in our home markets.

The Toronto Fruit Market. — Owing to energetic action of one of the directors of the F. G. A. of Ontario, and others, a much needed improvement in the accommodation for consignments of fruit is about to be carried out in Toronto. As is well known this is the great distributing point for the products of the fruit farms of Western Ontario ; but hitherto, the accommodation for the reception and sale of Canadian fruits has been most contracted and inconvenient, while that for American fruit arriving by boat from Niagara at the wharf, was much more advantageous. The new fruit market is to occupy, for the present, the site of the present City Hall station, and will allow room for six fruit cars at a time alongside of a large platform, which is to be covered with a shed roof.

QUESTION DRAWER.

Nitrate of Soda as a Fertilizer.

38. I would like to hear a little about Nitrate of Soda. Will it pay to buy it to use on trees and plants, and how is it done ?

This substance is a salt, somewhat resembling common salt. Chemically speaking it is a union of the protoxide of Sodium and Nitric acid. Large beds of it have been discovered at Tarapeca, in Northern Chili. It is very soluble in water, and may be applied to the land broadcast or dissolved in water. If broadcast, the dampness soon dissolves it, and the first rain carries it down within reach of the roots of the plants. Mr. Joseph Harris, of Rochester, has tested this substance extensively, and claims that for early garden crops, 500 lbs. of Nitrate of Soda per acre has a greater effect than twenty-five tons of the best stable manure. Indeed, stable manure scarcely furnishes Nitrate early enough in spring to suit the wishes of the market gardener.

The market value of this fertilizer is about $4.00 per 100 lbs. It would pay, according to Mr. Harris, to cover the whole garden, lawn, and fruit orchard, with 500 lbs. of Nitrate of Soda per acre, sown broadcast in the spring.

The Monkey Tree.

39. This last summer when in England and Scotland I was much struck with a tree I saw there, many of them in the neighborhood of London and Edinburgh, and even as far North as Oban on Kenara Sound at the West coast of Scotland. No one could give me the Botanical name for it, only knowing it as the "Monkey tree," a name given, because it is said to be the only tree a monkey cannot climb. It is an evergreen, of a most curious form, resembling a corkscrew, dark green in color, and the narrow sharp pointed leaves much like our pines. I daresay you will know something of this tree and if it would grow in this country. Kindly mention it in THE HORTICULTURIST as soon as convenient, as if it would live through our winters, I would get some and decorate our lawn. Yours etc., S. H. SMALLMAN, *London, Ont.*

HAVING noticed one of these curious trees in the collection of Mr. N. Robertson, Supt. of the Govt. grounds, Ottawa, we have referred this question to him, and he gives the following reply.

Araucaria Imbricata is the Botanical name of the tree called the Monkey plant. Some of the species grow 200 feet high in their native country. This one is a native of Chili, natural Order Pinaceæ. No, it would not be hardy with you, as it is not so in the Northern States. I had one here that I could not house, having grown to about ten feet high. It was dead in the spring, having been left outside for want of room. The most beautiful of the species is considered to be Excelsa, a native of the Norfolk Islands, but unless I had very large houses I could not go into this class of plants. I believe you could keep the Araucaria in a light cellar through the winter. They are unruly in a window. For lawn decoration there are few things that excel them. In England, and even in the South of Scotland, they are to be found, but sometimes they suffer in hard winters.

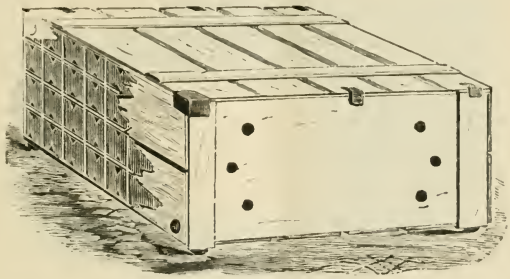


FIG. 45.—THE COCHRANE FRUIT CASE.

The Cochrane Fruit Case.

40. I notice in the CANADIAN HORTICULTURIST, February, '88, p. 32, under "Wealthy Apple," you mention packing apples in the "Cochrane case" for shipping. Please describe the Cochrane case, and give your opinion of it? —J. F. WILSON, *Chatham.*

THIS case was invented by Mr. Geo. A. Cochrane, of Montreal, and was designed for carrying extra choice and tender fruits to market in the best possible manner. By the kindness of Mr. Cochrane we are able to show our readers an illustration of this case, which will serve a better purpose than words in describing it. There are four trays, divided into pockets according to the variety of the fruit to be packed, and each tray is set in and filled before adding the next. A company was

formed at one time for the manufacture of these cases, and shippers who used them found them well adapted to exportation of Duchess apples and choice fall pears. No doubt they would be most serviceable also for carrying large, selected Crawford peaches, indeed a similar case is used for this purpose in shipping into Philadelphia market. Mr. R. W. Shepherd, Montreal, says: "I have used the Cochrane case for five years, and packed all my finest specimens of Fameuse, Wealthy, and Winter St. Lawrence in them, and find it pays well. I have never averaged less than $3.00 per case for these varieties. Last season I tried a couple of shipments of Winter St. Lawrence in cases to Liverpool and Glasgow, with satisfactory results. For extra fine specimens of fruit, it is certainly more advantageous to pack them in cases of this kind than in barrels.

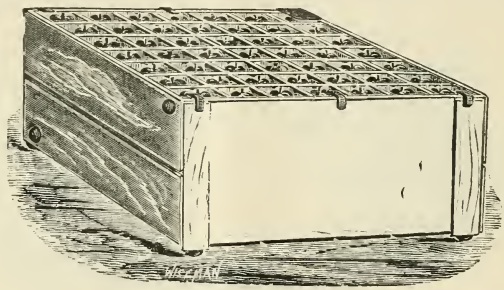


FIG. 46.—THE COCHRANE FRUIT CASE.

Paris Green and Bees.

41. Will the use of Paris Green for the Codling moth be injurious to bees? I knew one hive of bees to die from the use of White Hellebore on currant bushes.—J. L., *West Zorra.*

No doubt an application of Paris Green in time of blossoming would be injurious to the bees. But it is not necessary to apply it at that time; on the other hand, it is more effectual immediately after blossoming time is over.

Grafting Laburnum.

42. I grafted a Laburnum on to the Locust or Acacia tree last spring, but I did not succeed in getting the scions to grow. Could you give any advice? I have an idea that the Laburnum might be got to flower in these parts in that way if anyone understood the grafting of it.—WM. DOWN, *Stratford, Ont.*

Reply by D. W. Beadle, St. Catharines.

I HAVE never attempted grafting Laburnum on Locust. The Laburnum grows so readily and rapidly from seed that there has been no object to be gained, even if successful. I do not believe that the Laburnum would be any more hardy growing on the Locust than on its own root. As both of these trees belong to the same family (*Leguminosæ*), it is possible that the Laburnum might be made to grow on the Locust.

The Great American.

43. Do you know of a strawberry called th Great American; is it an old or new variety?—JOHN LEONARD, *West Zorra.*

Rep'y by John Little, Granton.

THE Great American was one of Mr. Durands seedlings, and none of them have ever been of any value and have long dropped from the list of most catalogues; there is no one now offers it for sale. Subscribers can find it by addressing T. T. Lyons, South Haven, Michigan.

Rockery for Ferns.

44. Can you give me any hints as to the construction of a rockery for ferns?—W. F. B., *Hamilton.*

Reply by Francis Mason, Peterborough.

This may be constructed in a similar manner to other rockeries, the only difference being the situation and soil.

All ferns delight in shade and to have success with them, the rockery must be placed under trees or on the north side of a building, high edge or fence, and the soil to be of a peaty nature similar to what will be found where ferns are growing wild in the woods.

The wants of fern life are a cool, moist atmosphere, light soil for the roots to ramble through, and plenty of water, especially in hot, dry weather.

Tomatoes.

45. Are they most profitably grown in rich or poor soil, on trellises or on the ground?—J. C., *Aultsville.*

Reply by J. A. Bruce, Hamilton.

Tomatoes like moderately rich soil, it must be dry and warm, if low and damp the growth is too vigorous, and fruit late in maturing. For family gardens, I recommend trellis culture, especially where space is limited. For market purposes plant in hills three to four feet apart, and put about a peck of old rotten manure in each; if that cannot be obtained an excellent substitute is, say one pint of superphosphate of lime in each hill. The most profitable and saleable kinds are:—Livingston's Beauty, Paragon, Perfection, Favorite, Acme; Canada Victor, Trophy.

Celery.

46. Is it best grown in hotbeds or later in cold frame? Is the cutting off of tops of growing plants advantageous? Which are the best kinds? How is it best to pack for winter keeping?—J. C., *Aultsville.*

Reply by J. A. Bruce, Hamilton, Ont.

For early use sow seed in hotbeds, for fall or general crop sow in cold frames, and transplant when two to three inches high into rows, three inches between each plant and six inches between the rows. Cutting off the tops is usually resorted to when the plants get too tall or overgrown; it is an old custom, but do not think it necessary if the plants are in good form. The leading kinds are:—White Plume, for early crop; Paris Golden Yellow (large, solid), New Dwarf (large ribbed), Prince of Wales, Incomparable Dwarf Crimson, for general crop. For winter keeping, pack in rows well banked up with earth, an ordinary root cellar will answer. Large growers pack in pits in the open ground and ventilate with tiles. Constant care and attention is necessary to properly ventilate cellars or pits in order to prevent rotting.

OPEN LETTERS.

The English Apple Market.

Dear Sir,—Our Apple market for the last ten days has been very good, and Apples are at present much wanted, our supply being very short, and Canadians are conspicious by their absence.

The current prices for Russetts are from 18/6 to about 32/; fair colored Baldwins much wanted, and fetch easily from 22/ to 28/, good kinds would fetch much more.

Up till recently our market has been flooded with Nova Scotians which have been largely bought up by some speculators here. They arrived in large quantities, and the bulk of them arrived in very bad condition, and as these speculators had to realize quickly, prices were depressed all round, and since the realization of these our market is left bare, hence the demand now.

Yours very truly,

J. B. Thomas.

Covent Garden Market, London, Eng.
13th April, 1888.

Fruit in Manitoba.

SIR,—I have set out a variety of small fruits, strawberries, gooseberries, currants and grapes, all of which I think will succeed well with us here, and have also been experimenting with hardy apples, having now over one hundred apple-trees, two and three years old, all of which have stood the winter well, so far, but the alternate freezing and thawing in the spring being the crucial test, I am unable to say what the result will be.

Our greatest difficulty here is to get thoroughly reliable hardy trees, as many of the farmers and fruit fanciers who have attempted apple growing in the past, have been badly victimized by tree agents. Nearly all the old settlers here have spent a good deal of money in buying trees, but none have succeeded, either from above cause or through improper handling. To the nurserymen who can supply an apple-tree sufficiently hardy to stand the climate of the North-West, a fortune is waiting, and I firmly believe that of the number who are experimenting on this line, some one is bound to succeed. I may also say that all of my small fruits are laid down in the fall and covered, whilst the apple-trees are "mounded up" with earth. I will report to you in detail, the several varieties should they come through the winter with anything like success.

Wishing both your society and its journal the success they merit. I remain, etc.,

J. C. WAUGH.

MORDEN, MAN., *Feb. 19, 1888.*

News from Mr. Berckmans.

MY DEAR SIR,—I have been in the high pine lands of Southern Florida since beginning of February, with the hope of securing relief from bronchial trouble of some tenacity, and this I am now assured of, if one is to be the judge of his physical feelings. A day or two since, the mail brought me the March number of the CANADIAN HORTICULTURIST containing your very kind notice of myself. You are very good to your friends, and I thank you sincerely for this courteous compliment. Our friends here anticipate with pleasure to welcome the American Pomological Society in February next, and you will find that the promise made at Boston will be fulfilled to the letter. With best wishes, I am, dear sir,

Yours, respectfully,

P. J. BERCKMANS.

VILLA CITY, Fla., *March 21st, 1888.*

Canadian vs. British Apples.

A letter from A. McD. Allan, Goderich.

ED. HORTICULTURIST,—Some weeks ago a friend of the Fruit Growers' Association in Brampton, sent to me a clipping from *The Scotsman*, of Edinburgh, Scotland, in which the editor of that journal severely criticised our apples. He claimed that they were rapidly failing in size, color and flavor, etc., and advocated the extensive planting of orchards in Britain, claiming that with proper attention and care growers in Britain would in a few years be able not only to grow enough for the home markets, but an overplus for shipping to "New York and Montreal"!

I replied fully direct to the *Scotsman*, and it seems my letter has appeared, as I have received by the last mail a letter referring to the subject which I give in full as follows, thinking that it may be of interest to our growers here.

"TO ALEX. MCD. ALLAN.

"President F.G.A., Goderich, Canada.

"DEAR SIR,—I have read your letter to the *Scotsman* of date 13th ult. I did not see the article you refer to, but I can't understand how the writer could ever come to such a conclusion that there was any hope of the home-grown apples ever supplanting Canadians here. The idea seems to me to be too absurd to be treated seriously. I have been over twenty-five years in the fruit trade and I dare say I can be supported in what I say by the entire trade, that Canadian apples hold the market and will continue to do so, so long as we get your fruit properly and conscientiously packed.

"Yours, etc.,

"WM. CARMICHAEL."

"LEITH, *March 5th, 1888.*

Experience with New Varieties.

SIR,—If my experience in some new varieties of fruits in these parts is of any interest to you here it is.—Of some twelve varieties of grapes the ElDorado is the first choice in my family for eating. The Russian Apricot has stood the two past winters unprotected and unharmed; not yet fruited. The Kelsay Japan Plum dead, root and branch the first winter, 1886-7. The Ogden Japan Plum, about two-thirds killed, sprouted up very thrifty the past summer, but I think all killed this winter, 1887-8. The Dwarf English Walnut and the Spanish Chestnut, has stood the two past winters unharmed. The Early Harvest Blackberry dead, root and all, the first winter. The Agawam growing and fruiting nicely. The Golden Queen Raspberry about as hardy and productive as the Cuthbert, but not quite as strong a grower. The Shaffer is a very strong grower, hardy and productive.

H. MCKEE.

NORWICH, ONT.

A Correction.

SIR,—I notice in my remarks on your paper in your last issue an error exists, whether on my part or yours I am not sure; but it looks a little awkward where I say, *or should have said*, and certainly intended to say Floriculture is my branch, it reads, "Horticulture is my branch." You will see the import of my statement.

N. ROBERTSON.

OTTAWA.

The Curl of the Peach Leaves.

In the November number you gave a description of the curl of the peach leaves. We have a remedy that saves our trees, that is for the one season. We take some coals and old leather in a tin pail and hang them on a pitch fork, and smoke the tree well, and the diseased leaves will all drop in a few days and it will not hurt the fruit nor healthy leaves. We have used it four or five seasons and it never failed us. E. AINSLIE.

BACONSFIELD.

Note by F. Shute, Chemist, Experimental Farm.

Personally, I should be very apt to doubt the efficacy of the fumes of burning leather for the destruction of the fungus *exoascus deformans*, unless it (the fumes) were very dense and hot, (in which case the other leaves would likely be affected. In this incomplete combustion of leather undoubtedly many compounds of nitrogen (cyanogen to ammonia) are formed, but what effect such, in the quantities they are present in such fumes, would have upon the fungus it would be difficult to say without direct experiment, as there appears to be no experiments of the kind on record. On the other hand, leaves affected by this fungus, must have their vitality impaired, and would therefore be the first to succumb to any outside influence of a deleterious nature. In this way the leather—or perhaps other fumes are beneficial in hastening the fall of the diseased leaves.

The "Jewel" Grape.

SIR, We have good account of the Jewe lately secured from Mr. Wm. Mead Pattison, of Clarenceville, P.Q., who fruited this last season, he says:—

"I am most favorably impressed with the Jewel which ripened in August this year, close on Champion, and I thought a trifle earlier. The vine is vigorous, foliage healthy. Fruit of excellent quality and does not deteriorate soon after ripening. Berry not as large and bunch as showy as Champion, but this is more than compensated in earliness, quality, and other points of value. If it continues to do as well here it will be the most popular extra early grape.—W. Mead Pattison."

STAYMAN & BLACK.

LEAVENWORTH, KANSAS.

REVIEW.

Books.

THE BUSHBERG CATALOGUE. An illustrated Grape Growers' Manual, by Bush and Son and Meissner, viticulturists, Bushberg, Missouri. Cloth, price $1.00.

This is a most valuable book of 152 pages and deserves special mention as deserving a place in the library of every vineyardist. After treating of climate, soil and aspects, there is a most exhaustive chapter on the true grape vines of the United States, by Dr. G. Engelmann, in which is clearly shown the characteristics of the various species of Labrusca, Cordifolia, Riparia, Æstivalis, etc., and a careful classification thereof. The next is viticultural remarks on our American species, with lists of their cultivated varieties. Grape grafting, trellising, training, bruning, diseases, etc., are also carefully dealt with in this work, which closes with a very full descriptive and illustrated catalogue.

SECOND ANNUAL REPORT OF THE FOREST COMMISSION of the State of New York for the year 1886. A. L. Prain, Albany, N. Y., Secretary.

This work treats in an able manner of the serious results of the loss of forests, such as the drying up of springs, and the causing of sudden and destructive floods, and the injury to agricultural interests, and ably advocates the careful preservation of forests still standing.

ADDRESS of the eighth meeting of the American Horticultural Society, in San Jose, California, January 25th, 1888, by Parker Earle, president of the Society. This excellent address may be had by any person who will take the trouble of enclosing 2 cents for postage to the Secretary, W. H. Ragan, Greencastle, Indiana.

Miscellaneous.

THE LAMB PRIZE ESSAYS, from J. A. Watson, Concord, N.H., (1) Healthy Homes and Foods, (2) Sanitary conditions of School Houses, etc., (3) Disinfection, etc., against Infectious Diseases, (4) Preventable Causes of Diseases.

THE MARYLAND FARMER, published at Baltimore, Md., a monthly magazine at $1.00 per annum.

THE ILLUSTRATED LONDON NEWS, American edition, published at Potter Building, New York City, 10c. per copy with supplement, or $4.00 per annum.

Advance plates of the illustrations are forwarded every week to New York City, thus enabling American subscribers to receive this valuable journal, so ably illustrating the news of the day as quickly as formerly by mail from England, and at less than half the cost.

CIRCULARS from John Little, Granton, on the Itasca, the Logan, and other new strawberries which he now offers for sale.

For the CANADIAN HORTICULTURIST.

MY COUNTRY'S TREE.

BY GRANDMA GOWAN, MOUNT ROYAL VALE, MONTREAL.

SEE how my Maple waves her arms,
So graceful, high in air!
With diamond bracelet! glittering charms!
And coronal so fair.

She is a beauty, and a queen,
In her angelic robe,—
A radiant garb like hers, I ween,
Came from the hand of God!

She's lovely in her white attire,
And in her emerald green,
In the garden of our primal sire
Our Maple was the queen.

England claims her royal oaks,
With stately spreading boughs,
And roots as firm as castle rocks,
Staunch as feudal vows!

I'd rather claim our Maple Belle
With her locks of ruddy glow,
"Trees have tongues," they own her spell
In sylvan language low.

The cypress, and the dusky pine,
Reminds me I am clay;
And makes me look on "Father Time"
And fret my hour away!

But the golden gleam of my country's tree
Wafts my soul on high,
To the Eden prepared for "even me"
In the eternal by and by.

STECHER LITH. CO. ROCH. N.Y.

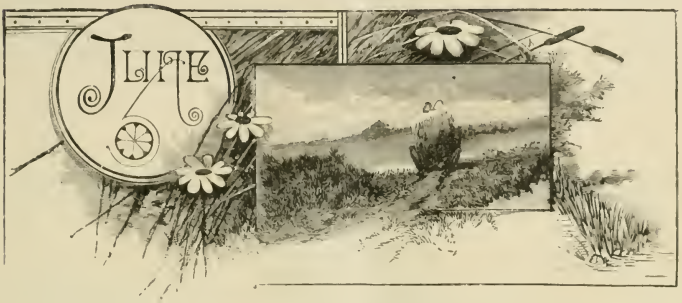
Hydrangea Paniculata Grandiflora.

FOR CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 6.



HYDRANGEA PANICULATA GRANDIFLORA.

A SHRUB that carries so grand a name as this one must surely be of some importance, judging merely from its high sounding title. But great names are so frequently employed now-a-days to help the sale of some novelty, that we often regard them with suspicion until we have proved the plant itself upon our own grounds.

This shrub, however, has been well tested in Ontario. Some years ago it was distributed by our association among its members, and has proved itself perfectly hardy. We speak not only from our own experience at Grimsby, but would also cite the authority of Mr. Jas. Goldie, of Guelph, who says that it has stood a winter temperature there of 40 degress below zero, and has come out perfectly unharmed. This is very remarkable because the other varieties of Hydrangea, such as Thos. Hogg, Otaksa, Hortensia, etc., though most beautiful in flower are too tender for out-door planting in Canada; even the wild Hydrangea, (H. arborescens) is only found in Pennsylvania and southward.

Our colored plate well represents one of these flowering shrubs in full bloom. The immense panicles of bloom are made up of hundreds of small blossoms such as is shown to the left hand, and these continue growing and developing for six weeks or more, changing gradually from ivory white to pinkish white. The late flowers dry up, and take on a rich brown color, when they are desirable for winter boquets.

The Hydrangea is very susceptible

to the influence of drouth, and in dry seasons, especially if in light sandy soil, it should be well mulched, and occasionally thoroughly drenched with water. The great point in its culture is to keep up a good vigorous growth, which will usually be succeeded by great masses of bloom in the autumn. Last season was unusually dry, and our hydrangea suffered most severely from lack of such treatment as we have described, the leaves drooping badly, and the flower clusters failing to reach their full development.

For a conspicuous place upon the lawn, either as a single specimen, or in a group, it is one of the most desirable of all shrubs. Its time of flowering is in August or September when there are very few other shrubs in bloom, and then there is nothing which can in any way compare with it.

SOME PROMINENT CANADIAN HORTICULTURISTS.—IV.

DR. D. W. BEADLE, ST. CATHARINES, ONT.

PROMINENT in the list of Canadian Horticulturists stands the name of Mr. Delos W. Beadle, of St. Catharines. For twenty-four years he was secretary of the Fruit Growers' Association of Ontario, filling the office with most distinguished ability, so that at the present time wherever the progress of horticultural science in Canada is spoken of, his name is also known as an authority upon the subject.

We have just had an engraving of Dr. Beadle prepared for this journal and we are sure that our readers will all be pleased to see the face of one with whose writings they are already so familiar. We have no room here for any extended biographical sketch, but wishing to preserve for future generations some account of those who have been the pioneers in Canada of our favorite industry, we have prepared the following brief notice.—

Mr. D. W. Beadle inherited a taste for horticulture from his father, Dr. Beadle, of St. Catharines, who was one of our earliest Canadian nurserymen. He was born in that place in October 17th, 1823, and was prepared for college at the Grantham Academy, now St. Catharines Collegiate Institute.

In September, 1841, he entered the Sophomore class in Yale College, New Haven, Conn., where he obtained his B.A. degree in July, 1844, and two years later received his B.A. (*ad eundem*) from the University of Toronto. In 1847 he received his LL.B. from Harvard University, Cambridge, Mass., and in 1848 was called to the bar in the city of New York where he entered upon the practice of his profession in which he continued for about six years. On account of failing health he was led to seek out-door life and occupation, and was admitted by his father to an interest in the nursery business, in which line he has ever since continued.

When the Hon. Geo. Brown began the publication of the *Canada Farmer*, Mr. Beadle undertook the charge of the Horticultural Department, and continued to edit it for several years.

In January 1859 the Fruit Growers' Association of Upper Canada was organized in the city of Hamilton with

eighteen members, with Judge Campbell its first president, and Arthur Harvey recording secretary. On the 16th of January, 1861, Judge Logie, of Hamilton, was elected president, and D. W. Beadle, secretary, a position which he continued to fill until his retirement in 1886. Mr. Wm. Saunders in his annual address in 1884, as president, says of him, "While I acknowledge with pleasure the valuable aid rendered by my much esteemed predecessors in the presidental chair, the lamented Logie, W. H. Mills, Dr. Burnet, and P. C. Dempsey, and esteem it an honor to wear their mantle, I feel free to say with no fear of contradiction, that the Fruit Growers' Association of Ontario owes its present high position and influence more to its able secretary than to any other man belonging either to the past or the present."

The Canadian Horticulturist was first

Dr. D. W. Beadle, St. Catharines, Ont.

issued by our Association in Jan. 1878, as a magazine of sixteen pages. Since that time it has been increased to twenty-four pages, and has been instrumental in increasing the membership of our association to a total of over two thousand names. For the editing of this journal Mr. Beadle's literary training eminently fitted him, and the high standing attained by the journal among the cultured classes of our country leaves ample testimony to his ability for such work.

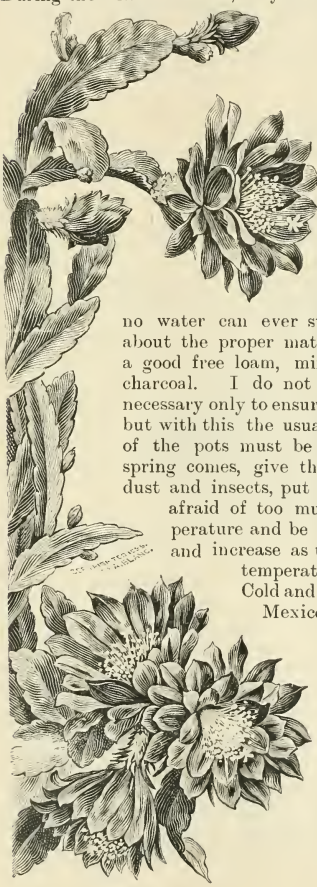
As an evidence that Mr. Beadle's abilities were also recognized abroad we may add that on the 10th of Nov., 1862, he was elected corresponding member of the Entomological Society of Philadelphia, and in Dec. 1865, by the President, Council and Fellows, a corresponding member of the Horticultural Society of London, England.

CACTUS CULTURE.

Could you give a sketch about the management of Cacti at the different times of the year; when to water or not; and when they should flower, and how to make them flower, and any other point that may be useful. I am yours truly, F. DANN. *Selkirk, April 9th, 1888.*

(Reply by N. Robertson, Superintendent Government Grounds, Ottawa.)

THERE are two things that are imperative in order to be successful with cacti, viz.:—a season of perfect rest, and the most perfect drainage. During the winter months, they should be put in some place where this can be attained; if in a greenhouse, some dry shelf, away from amongst other plants; if in a house, the garret or some out-of-the-way corner, where the temperature does not fall below 45°. Never give them water unless you see them shrivelling up, and even a little of this is better for them than moisture. Evade any cold, damp place above all things. In their native habitats they are found growing on the arid plains and mountain sides, where they are almost burnt up during six months of the year. Such positions give them perfect drainage also, as when the rainy season comes no water can ever stagnate about them. Much has been said about the proper material in which to grow them. What I use is a good free loam, mixed with lumps of old lime, rubbish and charcoal. I do not know that those things last named are necessary only to ensure perfect drainage and keep the soil open, but with this the usual method of plenty of crocks in the bottom of the pots must be carefully attended to. And when the spring comes, give them a good washing to cleanse them from dust and insects, put them in a warm sunny position, don't be afraid of too much heat, they will stand a very high temperature and be benefited by it Water sparingly at first, and increase as they begin to grow. If you have not a high temperature your watering must be carefully done. Cold and dampness are the greatest enemies they have.



Mexico and Brazil are the principal producers of many of them, although they are found in several other tropical regions of America.

To enumerate the many different species of them would perhaps be superfluous in the eyes of many of the readers of your Horticultural paper. In a botanical collection in England, there are over nine hundred species, but I will take only a few of the species most frequently seen.

Phyllocacti are those frequently seen in collections and houses and are known

by their flat or triangular forms. The colors of their flowers are crimson, white and pink. They make a grand show, and their flowers will last a considerable time, if kept in the shade and in a rather low temperature during this season.

Opuntias, or prickly pears as they are sometimes called, are round stemmed with flat, oblong branches. Of them there are many species, and many of them are of considerable commercial value. O. Cochinellifera and O. Tuna are those upon which the Cochineal insect is fed, and from which the dye cochineal is taken. There are several other uses they are put to in fancy work, such as baskets, trays, etc. Two of them are found in our North-West Territories.

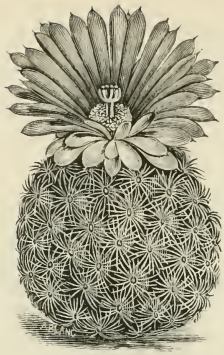
Cereuses are another numerous class, often called the Tree Cacti on account of the great height attained by them. Some reach as high as sixty feet; some of them run up in straight poles, whilst others branch like a tree. Their stems are in various forms, round, fluted and angular. The most commonly known of them are C. McDonaldii and C. Grandiflorus. Many of them are night bloomers, flowering only the one night, opening about five p.m. and closing about ten the next morning, some of them very large, measuring as long as twelve and fourteen inches, of the most beautiful and delicate texture and gorgeous colors.

Mammillarias may be said to be round balls covered with prickles. The flowers are thrown up from this round ball, but they do not in general attract the same attention by their flowers as the former variety does, but their curious shape always attracts attention. They require a rather better treatment than the others, that is to say not so much of dry treatment, and a richer soil.

Echinocacti are very similar to the former in most respects, only they have longer spikes and appear more formidable than the others.

Epiphyllums, called Lobster and Crab's-claw Cacti, are generally found growing on the trunks of trees in their native country Brazil, and they do and look well in a hanging-basket. But they are mostly seen here grafted on the Pereskia stocks and other sorts such as Grandiflorus. They are very beauti-

PHYLLOCACTUS LATIFRONS.

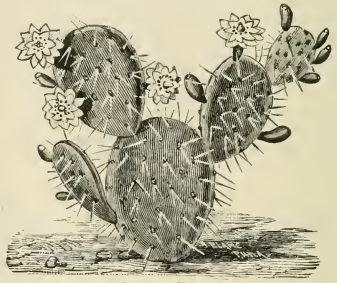


Mammillaria Pectinata.

ful in their many colours in this shape also.

These are a few of the most prominent varieties grown. No collection of plants should be without a few of them, if it were for nothing else than for their curious and unique appearance. Planted out on a rockery, or in a bed the different varieties form a great source of attraction, which people appreciate. I never care to take them from the pots as it is such a rough job to handle them, and men do not like it, some of their pricks being in the style of a fishing hook, barbed and difficult of extraction.

Much confusion has reigned amongst the names of the Cacti. You can order by name and think you are getting



Opuntia Tuna.

something different from what you have and when you get them they are frequently something you have under another name. Now, that such men as Blanc has taken hold of them, you are safe in ordering from him, having no fear of this difficulty.

Cereus Grandiflorus.

FLOWERS

NEW ROSES.

By F. Mitchell, Innerkip.

AS I have received inquiries concerning the newer additions to our already large list of roses, it would perhaps not be out of place to reply as far as I can to these inquiries through the columns of our journal. I may preface the very few guarded remarks that I shall make by saying, that with added years, I am developing a wonderful amount of good Scotch caution, and do not now care to positively laud or condemn either a rose or a fellow-being, without a considerable term of close acquaintance.

The Puritan came out last summer. My own experience with it does not amount to much, but I have corresponded with those who are better informed on it than I am myself, and having summed up the information received, I think what follows will prove reliable. It is a hybrid tea, white, and when perfect, very beautiful. Some very fine blooms have been produced under glass, but as yet it has not succeeded in the open air. I do not think, on the whole, it will prove so valuable as "The Bride," which came out some months before.

Mrs. John Laing, a hybrid perpetual, is perhaps the latest rose out, of which anything is really known. From all I can learn of this rose, I predict it has come to stay. In color it is pink, and it has many qualities to commend it. It is claimed to be a seedling of that fine old variety Frances Michelon. I will write more of this rose so soon as I known more about it. I can now recommend The Bride more strongly than I did last spring. It is a first-class rose for the amateur. Souvenir de Victor Hugo has also exceeded my expectations, but its resemblance to older varieties detracts from its value as a novelty.

Her Majesty takes a long time to fully prove itself. I got my first plant two years ago, and my eyes have not yet been gladdened by the sight of one bloom. I would advise those impatient persons who desire a full show of bloom in a few weeks after planting, not to plant largely of this variety. Of other roses introduced in the last few years, I have nothing to say which I have not said before.

JUNE FLOWERS; OR A RAMBLE IN THE WOODS.

By Mrs. A. Gilchrist, Guelph, Ont.

JUNE, the month of flowers, finds our woods and river banks fairly aglow with floral beauty. The true value of flowers is in their form, color, and fragrance. There is no language to describe the exquisite pencilings and shadings of many of our native flowers, rivalling in beauty and sweetness some of their more pretentious exotic relatives, which can only be brought to

perfection with the greatest care and culture; while our natives, if they get any chance at all, bloom quite freely, and amply repay any care or culture bestowed on them. The technicalities of Botany are principally used for the describing and naming of plants, which make it useful and interesting. In this paper I purpose giving a sketch of a ramble in the woods.

In crossing the river we notice the common blue flag *(Iris versicolor)*, or the Fleur-de-Lis of France. We find it has relatives all over the world, yet our native is worthy of a place among its foreign rivals. We pull one up with the roots and find it has a creeping root stalk, stem stout and angled on one side; the leaves are sword-shaped and from half to one inch in width; they are parallel veined, telling us plainly it belongs to the lily family; yet the leaves differ somewhat from the ordinary parallel-veined leaves. While most leaves spread horizontally and present one face to the sky and the other to the earth, the Iris presents its tip to the sky and its face right and left to the horizon. On careful inspection we find each leaf is formed folded together lengthwise, so that what would be the upper surface is within, and all grown together, except near the bottom, where each leaf covers the next younger. It was from this folding of the leaves that they take the name of equitant leaves. The flower is a lovely purple, veined with white and yellow, having yellow hairs on the petals like little brushes. These hairs are useful in fertilization. When an insect goes in to get nectar, it is covered with pollen and this brush seems to brush the insect off and it is thus rubbed on the stigma and fertilized. The six petal-like divisions of the flower are in two sets of three each. The three outer divisions are reflexed, the three inner erect and smaller, the stamens distinct, the anther of each concealed under a flat and petal-like arching stigma. The colors are charmingly blended, hence the mythological name of the rainbow.

In rambling on through the woods we come to a rocky bank. Here we get the Columbine (*Aquilegia Canadensis*), with its nodding flowers of orange and scarlet. It has five petals which are attached and form five hollow tubes called spurs. It is at the end of these spurs, where the nectar or honey is stored. It is also from these spurs that the plant derives name, *Aquilegia*, from the fancied resemblance to an eagle's talons. The flowers are very showy and terminate the branches. The leaves are decompound and of a pleasing green color. It has also a sister in the West, a native of the Rocky Mountains, which is blue and white. But we must not remain too long here on this rocky bank with the Aquilegia.

Hastening on through the wood we come to a marshy place with a lot of old logs and stumps of trees. Here we find a beautiful little creeping vine. We examine it and it has two pretty little pink bell-shaped flowers. We look up over Botany and find there is only one species, that is *Linnæa borealis*. Linnæus' most intimate friend, Dr. J. F. Gronovius, with the concurrence of Linnæus, selected this little depressed sweet flowering, long overlooked plant to transmit the illustrious name of the great botanist to posterity. As I have said there is only one species. It is a beautiful little trailing evergreen plant, with long slender branches, bearing small ovate or obovate leaves. It sends up erect thread-like flower stalks, which fork near the top. Here are the two gracefully drooping bell-shaped flowers from which the plant derives its common name of twin flower. It grows almost exclusively in woods in cold moist situations, but, although growing in wet places, we never get the roots in water, but high and dry on an old log or stump. It is widely dispersed over North America, also Northern Europe and Asia according to some

writers. Its scent is so powerful especially at night that it may be discovered at a considerable distance. The Laplanders use a decoction of its flowers as a remedy in rheumatic complaints.

From further research in this same marshy place we get a small green plant with creeping roots. What can this be? We again have recourse to Spotton. We analyze our flower. At first we think it has four showy white ovate petals, but on examination it has a crowded head of very small greenish white flowers, having four petals, four stamens on the ovary, one style. We turn to the key and find it in the first division, Polypetalus Exogens, Corolla regular, Cornaceæ might be the order. We turn to the order Cornaceæ, and it says shrubs or trees. Ours is neither a shrub nor a tree, but on reading further we find this description, "*Cornus Canadensis* (Bunch Berry), stems simple, four to six inches high, stems springing from creeping slender subterranean shoots, which are slightly woody, bearing four or six ovate or oval leaves as if in a whorl below the stalked flower head, petal-like leaves of the involucre ovate and white." That then is our plant, the *Cornus Canadensis*. We feel quite well repaid for so much searching, having found the name of our plant, also that it is the only Canadian genus in the order.

But let us look and see if there are not some more plants while we are here in this mossy bog. Here we find the *Myosotis palustris* (Forget-me-not), and there is the pretty little white slender Harebell (*Campanula aparinoides*) with its graceful nodding white flowers. But oh! on that moss-covered hillock there is the *Cypripedium spectabilis* with its showy pink and white flowers. It has a sac or pouch not unlike a fishing basket and from each side of the sac extends two arms a little twisted. Then the hood or lip seems to lean forward, and is a darker pink than the pouch. It is called Lady's Slipper, but I am sure I cannot see any resemblance to a slipper,—it must have been a Chinese lady,—and over there are some spikes of Ladies' Tresses (*Spiranthes*). It is very wet here, and there is a flower I have longed to find *Calypogon puchellus* (Grassy pink) with its purplish pink flowers born on a slender scape, the flowers being about one inch broad, the lip as if hinged at its base, bearded with white yellow on purple hairs.

It is now time we were turning homeward. In leaving the bog we come to a dry knoll with some pine trees and sandy soil. Are these strawberries or violets in bloom in the end of June? No. It is *Dalibarda repens* (or False Violet). Here is also *Cypripedium acaule*, stemless Lady's Slipper, it has two oral leaves and only one rose-purple flower. There is also a perfect bed of *Pyrola*, nearly the whole genera represented. In climbing the fence we step on the *Gaultheria procumbens* (Teaberry Wintergreen), having flowers and ripe bright red berries on the same plant. Having found so many floral treasures we return home hungry, weary—and foot-sore, but happy.

CULTIVATION OF THE HOLLYHOCK.

By Herrmann Simmers, Toronto.

THE HOLLYHOCK (*Althæa rosea*), a plant of the natural order Malvaceæ commonly referred to the same genus with the Marsh Mallow. Briefly it is described thus: It is a native of India and south of Europe. Unfortunately of late years the Hollyhock has not been cultivated in our gardens as much as it should be, being one of

the handsomest plants a person could wish to have for a background effect, and towering as it does with majestic effect over its small subjects, the annuals. The Hollyhock is almost as easily raised from seed as the pansy, the pink and the carnation, etc., is; but the difficulty lies chiefly in carefully wintering them, which probably has been the reason for their partial extinction of late years. Hollyhock seed may be started in a cold frame any time during the month of June, and as soon as the plants have become sufficiently established to allow of them being handled, transplanted to any ordinary bed in rather a shady locality. Do not defer sowing the seed later than this month, as it is almost impossible for them to get sufficiently established to withstand the winter. My experience with them has been that if sown later than June they will invaribly be frozen through the winter, and even sowing in June and subsequent transplanting will sometimes discourage the amateur; because the proper amount of covering required is somewhat puzzling. Too much is sometimes as bad as too little, for if we have a mild winter the plants, having been grown pretty strong, will probably rot with a heavy covering, and the same sometimes happens with the lighter covering. Therefore I would suggest a medium amount of covering, and to plant in a rather secluded spot. If the plants have properly wintered over, plant to their proper situation about the middle of April, as during the cooler weather of April they have a better chance to root, when they will be fully prepared for the warmer weather to follow. I would suggest not to leave them where they were planted the previous summer, as frequent transplanting will strengthen their blooming properties. This, the June issue of the HORTICULTURIST, will give amateurs plenty of time to prepare themselves for sowing seed for their plants for next year, and I only hope many will avail themselves of the opportunity of so doing in order to have one of the finest species of plants in their gardens, not on account of its value as suitable for cut flowers, but as a decoration for the garden.

FORESTRY

THE WOOD LOT.

By "Forester."

THE study of forestry for the purpose of preserving those small remains of our wild woods now left on most farms will probably be the first practical attention given to the subject. When so little is known of forestry it is not surprising that every farm owner has a different theory, not distinct enough however to make many of them take any real care of their wood lots, or to say anything about it unless applied to.

It is generally admitted that the forests ought not to be pastured, and there may be a few lots from which cattle are excluded; but I have not heard of anything more being done and it would be hard to say what should be the next advice to farmers or forest owners. I notice in the last report on prize farms in Ontario it is said that on one of the best of them the wood lot was cleaned up and carefully seeded to grass, and that, since the farm has been drained, the black ash trees are dying. This is a management which seems contrary to all principle of forestry, as far as concerns the growth and life of the trees; for the first requisite in forest life is to keep the ground fully shaded —so much so, that grass cannot grow —to keep it moist and free from packing, or the tracking of cattle, and to encourage such a growth that drying winds may not enter.

It seems to me that as soon as a wood gets so thin, that grass is seen, its effectual growth is done, and it would pay better to cut off one or more acres and convert into good meadow land, and if need be, to plant out an acre of old field with seedlings from the same or other forests.

I do not find in the best forests more than fifty large trees per acre, and we know that maples or other trees at eight feet apart (680 to the acre) can be grown till they will make half a cord of wood each; and if they are thinned judiciously or in any case if really in vigorous life, they will increase faster than any old forest.

To preserve a wood lot, if the trees are only of a fair size, thick enough, and few or no dead tops showing, I think it will answer the purpose if it is fenced into one of the ordinary cultivated fields; what pasturing with cattle may occur in a rotation will not likely injure it, as they will not touch trees if they can get anything else to eat.

If very open and exposed to winds it would be well to enclose the bush with a fast-growing hedge, and in any really open place put in seedlings till the ground is properly covered. Any enclosed wood I have seen, soon gets such a growth of young trees about the margin that it is hard work to get into it, and if the main trees are not too old will in time make a heavy bush.

But I have no intention of doing this, unless, on a careful survey, the bush turns out better than it appears at a glance. After counting out the large dead tops, the swamp elms, hollow basswoods and short lived iron-woods and balsams, there will hardly be enough worth saving, and these woods have been overrun with stock so long that the undergrowth amounts to little. I intend therefore to close off the old brush

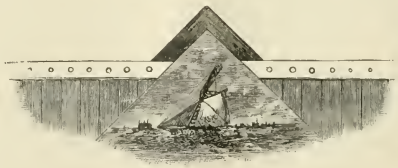
gradually (keeping stock out in the meantime) one or more acres at a time as may be needed for fuel, etc., and then in proper place for forest and shelter, or on the land inconvenient to cultivate, begin a new forest by planting out regularly just such trees as I want for fuel, manufacturing or protection, to be ready by the time the old forest has been cut away.

If the growing trees are of a valuable kind, and the owner has skill and patience to begin and carry on a judicious thinning, an old forest can be rapidly improved, but I fancy most proprietors will leave to a thoughtless employee to do the wood cutting, and it often happens that to pick out inferior or dying scattered trees will make the wood dearer than to buy it, and it may do serious injury. I find it stated in a late Ontario report that an owner removed the worthless elms from a lot and soon after found that he had done too much thinning, for the other, and what he thought valuable trees, ceased growing and soon began to fail, and as a rule it will be safer to depend on the new planting for the future forest, at least on such small lots as our farms will retain.

To me it is much more encouraging, for in laying out the forest the various trees, the maple for fuel, the hickory, ash and oak for the factory, the cherry, basswood and walnut for indoor use, the pine and cedar for outside, I feel as if I were furnishing the property with an attraction for myself and future owners, more than by the biggest castle I could find room for on the highest hill.

The Black Cherry for Foresters.

Robert Douglas, the great forest tree planter of the West, pronounces the wild Black Cherry (P. serotina), to be even more profitable to the planter than the Black Walnut. His reasons are (1) The trees can be planted closer; (2) They grow easily in dry soil; (3) They do not injure vegetation beneath; (4) They attain full size for cabinet makers' use in half the time; and (5) The wood brings in some markets quite as high a price.



The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

Notes and Comments.

FRUIT ABOUT ORILLIA seems to be a profitable crop according to the *Orillia Packet*. One Duchess of Oldenburg apple tree, for instance, thirteen years planted, produced last year nine bushels of apples, which sold in that vicinity for $1 per bushel. Our Association has about forty members at Orillia, prominent among whom is Mr. J. Cuppage.

PEACHES will not be so great a failure as we at first anticipated. One bud in twelve surviving counts up to a large number upon a tree, and these survivors are showing up their very best for our encouragement. Indeed the spring opens with favorable prospects for the fruit farmer. The pear trees appear laden with bloom, and so do apple, cherry, and other trees. Let our fruit growing fraternity resolve upon giving their orchards the very best of care and culture, and to place such fine samples in our markets that American shippers shall be driven out by the disparity in the products even in spite of the removal of the import duty.

MR. CHARLES DRURY, of Crownhill, has been made Minister of Agriculture for the Province of Ontario. Members of our Association will be glad of the appointment to this office of one who was one of our Directors for three years, and who has for four or five years been one of the auditors. He is thus in a position to know exactly the faithful work of our Association in the past in advancing the interests of Canadian farmers by educating them in fruit culture, and to give us the benefit of his counsel in carrying out future schemes of usefulness.

JUDGING FRUITS.—We hope soon to see a carefully arranged scale of points prepared for the use of judges of fruits at all our exhibitions. In poultry, and in live stock, the work has been reduced to a system, so that something like uniformity, and fairness may be expected from the judges. But not so with our fruits, which are often judged in a most unfair and unsystematic method. It is time our Association considered this subject most seriously, and appointed a competent committee whose duty it should be to prepare a scale of points which could, on approval, be recommended for general adoption by all fair

managers. Some such heads as the following might be used among others, viz :—Nomenclature, Coloring, Flavor, Hardiness, Productiveness, Shipping Quality, Commercial Value, and each plate of specimens given points under each head varying from 1 to 5 according to merit. The sum total of points given would then decide the awards.

Hardy Apples.—It was no wonder that at our Ottawa meeting with the thermometer registering from 30° to 40° below zero, our attention was turned largely to such questions as Winter protection, varieties of fruits and ornamental shrubs adapted to the cold north, etc., notwithstanding the gentle remonstrances of some of our friends of the Experimental Farm who hope to be able to test for us every known variety of fruit

Under the head of hardy fruits Mr. Charles Gibb, of Abbotsford, P.Q., suggested the following six as his selection of the best hardy varieties of apples :—(1) Yellow Transparent ; (2) Golden White ; (3) Raspberry ; (4) Titovka ; (5) Longfield ; and (6) Arabka.

Mr. A. A. Wright, of Renfrew gave the following as his selection of five varieties for Carleton County, viz :—(1) Yellow Transparent ; (2) Duchess ; (3) Alexander ; (4) Scott's Winter, and (5) Wealthy.

Spraying Insecticides.—So general has this custom become that it no longer seems necessary for us to emphasize its importance. The cherry and plum trees are sprayed to protect them from the curculio, the apple trees to protect the young fruit from the codling moth and the leaves from the canker worm and the tent caterpillar, and the potato patch to destroy the potato bug ; and for all these the much tested Paris green and water is found equally effective. Many recommend half a pound to fifty gallons of water, but in our experience of its use on a large scale at Maplehurst, this is much more than should be used. One quarter of a pound to fifty gallons of water is quite as effectual, and much less injurious to the foliage. Some have expressed a fear lest the poison might in some way find its way into the interior of the apple, but the fear is quite groundless. Both this and London purple are minerals, and not so absorbed, but washed off by the first rain.

The spraying pump is found equally useful in the currant and gooseberry plantation, where the sawflies may quickly be disposed of by a careful spraying of the bushes with powdered hellebore and water, at the rate of one ounce to two gallons of water.

For the aphis on the cherry, the kerosene emulsion is perhaps the most effective remedy. It may be made in several ways, of which the following is a good one, viz :—Dissolve half a pound of common soap in one gallon of boiling water, and then add two gallons of kerosene, churning until well emulsified. Then for use add ten parts of water. This also may be applied with the ever useful spraying pump.

We would also remind our readers of the hyposulphite of soda as a remedy for the apple scab. It may be applied to the young fruit along with the Paris green, one pound of hyposulphite being use to every ten gallons of water. Those kinds which are especially subject to scab should be experimented with most carefully, and the results made public through this journal. That it is useful has been proved, but that it is an *effectual* remedy has yet to be proved.

The Wild Goose Plum.

This plum is the Chickasaw type, and grows naturally in great abundance in the favorable situations in the South and West. According to the *American Garden*, Mr. J. R. Hawkins, of Orange Co., N. Y. has had most favorable experience in the cultivation of this vari-

ety, packing them in peck baskets, and selling them for 90 cents per basket. The plums seem to be curculio-proof, and the trees proof against all diseases. The fruit is used chiefly for dessert, and for table decoration.

Two Nice Shrubs.

A. S. Fuller, in *American Garden*, recommends the Japan Quince, and the Dwarf Flowering Almond. The former grafted upon the apple, pear, or hawthorn stock about four feet high; and the latter budded upon plum stock at about the same height.

Sometimes several colors of each may be worked upon the same stock.

In Canada, the flowering almond is too tender except for favored localities, but perhaps it would succeed better on the plum stock.

Cacti in Mexico.

The cereuses alone are very numerous, and on account of the various colors of their stems make an interesting collection. There are said to be over two hundred species of them, mostly natives of tropical America, where the soil is dry and rocky. Our engraving gives a fine notion of the wild appearance of a country where these and other cacti flourish. The traveller seems to be actually hedged in by these terrible spines, which defy nearer approach. Towards the left hand appears an immense agave, of the same class as our common century plant, and of which there are over one hundred varieties. In Mexico they are sometimes used as hedge plants, and also valued for the manufacture of a beverage called "pulque," prepared from the young flower stalks of Agave Americana. To the right is a fine specimen of a cereus, tree-like in its form, but not in foliage. Mr. Blanc says the gigantic columnar cactus, cereus giganteus, is quite common in the lower part of the valley of Santa Cruz, and is there called the saguarro. It presents a thick fluted column, about the thickness of a man's body, and from thirty to fifty feet in height, with three or four branches at the top, the whole looking like a gigantic candelabrum. Growing beside the cereus, and also upon the rocks, is to be seen the opuntia, or prickly pear cactus, referred to by Mr. Robertson on page 125. This also is used for fences in Mexico.

The Summer Meeting.

The Summer Meeting of the Fruit Growers' Association of Ontario will be held at the town of Picton, Prince Edward Co., in the County Council Chamber, on Wednesday and Thursday, 11th and 12th of July, 1888, beginning at ten o'clock, a.m.

Certificates for reduced fares on all the railways may be had by addressing the Secretary, L. Woolverton, Grimsby,

Ont. Boats and cars will carry passengers at one fare from Trenton to Picton and return. Tickets should therefore be bought to Trenton from whence the certificates will entitle the holders to return at a reduced rate. Two certificates will be required in case a through ticket to Trenton cannot be purchased at the starting point.

Rates at Royal Hotel, Picton, $1 per day.

The following will be the leading

TOPICS OF DISCUSSION.

(1) "Fruit Growing in the County of Prince Edward," by John P. Williams, Bloomfield.

(2) "The Farmer's Fruit Garden." L. Woolverton, Grimsby.

(3) "The Farmer's Vegetable Garden."

(4) "The Production of New Varieties of Fruit by Hybridization and Seedlings." P. C. Dempsey, Albany.

(5) "Forestry for farmers, or what forest trees will pay the farmer to plant." Thos. Beall, Lindsay.

(6) "Growing Fruits for Canning Factories." Wellington Boulter, Picton.

(7) "Pear Blight," (with illustrations). Prof. J. H. Panton, Agricultural College, Guelph.

(8) "Growing and evaporating Corn." W. R. Dempsey, Reeve of Amelias burgh.

(9) "Conservatories, their management, selection of plants, etc." F. Mitchell, Innerkip.

(10) "The North-West; probabilities and possibilities of that country for fruit consumption, and for fruit production." A. McD. Allan, Goderich.

QUESTION DRAWER.

The following questions have been handed in for the QUESTION DRAWER:—

1. In what state and where does the Roseleaf Hopper pass the winter?
2. Will it pay the farmer to plant good land to Walnut trees?
3. How can a natural wood lot of Beech, Maple and Elm be best utilized for profit?
4. How can we best forward the interest of Horticulture in our Association?
5. What is the cause of the Fungus-scab on the apple. Why are some varieties subject to it, and others free from it, etc.
6. What is the cost, and what the profits of evaporating apples and other fruits?
7. What is the best way to prune and trellis the grape?
8. Tomatoes, what soil is best? Does it pay to trellis?
9. Can we improve any of our present methods of marketing fruits?
10. How may we secure uniformity and fairness in the awards of prizes to fruits?

It is hoped that the meeting of Wednesday evening will be enlivened by local contributions of addresses and music.

QUESTION DRAWER.

Planting an Apple Orchard.

47. Will it likely prove a profitable investment to buy cleared land at twenty dollars an acre, which lies high, and is naturally drained, and abounds in shaley lime stone, for the purpose of planting out an apple orchard on a large scale? Also, the following kinds are known to do well on next farm, and on same kind of soil. Can you recommend anything better in a 1,000 trees? American Golden Russett, King Tompkins, Winter Strawberry, Greening and Ribston Pippin. The site is a very exposed one, higher than the surrounding forest trees. A MEMBER.

Reply by A. McD. Allan.

(1) I BELIEVE it will pay well. Indeed, my experience for many years has been that the fruit crop was rapidly coming to the front, and now it is there, as the best paying crop upon the farm. (2) The kinds named are all such as will pay for export trade. If Baldwin succeeds there I would certainly plant it. And the Blenheim Pippin certainly. I would think Blue Pearmain should do well there, and if so, there is money in it.

Force Pumps.

48. Where can the pump be purchased, referred to in volume X., p. 134?—J. F., *Ottawa.*

From Wm. Robertson, Oakville. We think it equally good with the Field Force Pump of Rochester. Mr. McD. Allan recommends Brooks' Champion, for sale by Beecher Bros., London. It only costs $3.50, and may be used for spraying either large trees, or small bushes.

Bark-lice.

49. In the April number I notice you recommend soft soap and washing soda for bark-lice on apple trees. What proportions of these should I use and is it too soon to put it on now?—J. H., *Port Hope*.

We use half a pound of washing soda to an ordinary wooden pailful of water, mixing in the soft soap *ad libitum*. Either of these substances are effective remedies by themselves. The application should be made about the first of June, at the time when the almost microscopic young lice hatch out and leave the old scale in search of new quarters.

The Onion Maggot.

50. Is there any effective remedy for the onion maggot? Last year I tried a strong solution of tobacco and soot in water, but without avail. W. H. F., *Peterboro'*.

Prof. Lintner, New York State entomologist, recommends spreading gas lime fresh from the works, upon the ground in the fall, at the rate of 200 bushels per acre. The maggots pass the winter near the surface of the ground in a chrysalis state and the gas-lime would kill them. Miss Omerod, an English entomologist of note, has been successful in keeping off the maggot by simply earthing up to the neck each bulb, sometimes growing them in trenches to favor this operation. A Massachusetts gardener has for forty years used a strong decoction of burdock leaves with success. He runs them through a hay-cutter, pounds them to a pulp, and adding water, leaves them standing over night. He applies by pouring the mixture along the rows.

Prof. Riley recommends spraying the onion patch with kerosene emulsion.

The Annual Report.

51. Has the annual report yet been distributed? Is there no way of getting it out earlier for study amid the comparative leisure of the winter? Now it comes in the very press of out door work, and all careful and thoughtful persual of it is out of the question, and by next winter it will be a trifle stale.—C. R. M. *Kingsville, Ont.*

The Report has been in the printer's hands since December. The proofs have been carefully revised and indexed by the writer, and we are in daily expectation of its readiness for distribution. Probably it will be in the hands of our readers before these pages. We will do our best to have it issued earlier in future.

Training a Grape Vine.

52. Sir,—Would you kindly inform me in your next issue which is the better method of training the grape vine—on the upright or on the arbor trellis?—A. M., *Brampton*.

For field culture, or in a vineyard of any size the upright trellis is decidedly the most convenient, for pruning and for laying down in winter, and for gathering the fruit. But for a few vines in a garden the arbor trellis is much more artistic, and gives an opportunity for training much longer arms of bearing wood to each vine.

Greenhouses

53. Can you tell me of a work on the construction of a small greenhouse?—J. M., *Bowmanville*.

Volume VIII. of the Canadian Horticulturist, p. 88, *et seq*, has a good article with working plans on this very subject.

Slag as a Fertilizer.

54. Can you give your readers any information about a fertilizer recently introduced amongst the farmers in England called basic

flag? It appears to be the sag from furnaces ground to powder, and broadcasted over the land. What crop is it suited to? One would think such material could be sold cheap, and therefore, if good as a fertilizer, worth the consideration of our farmers. It would also introduce a new business to our manufactures.—A. STROTHER, *Niagara Falls, South.*

Reply by Prof. Panton, Ontario Agricultural College, Guelph.

THIS basic slag now coming into use in England owes its value largely to the presence of the phosphoric acid it contains. In this ground up material the phosphorus passes into combination with the lime in the slag and forms a calcium phosphate generally containing a large excess of lime.

From experiments made, this slag has about half the value of a superphosphate and seems to act more vigorously in soils rich in vegetable matter.

It is also useful on soils where quantities of phosphoric acid are desired for years in succession.

In vineyards and orchards, the slag offers a good means of furnishing the subsoil with a store of phosphoric acid, which will keep up the supply needed by plant life. The acid in this fertilizer is more soluble than in some others, for instance, 14 per cent in this gave better results than 25 per cent. in coprolites (another source of phosphorus). What has been said refers to slag from furnaces in Britain. Iron ores here may not yield nearly so much phosphorus and consequently is of less value. There is no doubt, that where the analysis gives 14 per cent. of phosphorus, slag will be a good fertilizer to supply soils requiring this mineral ingredients; but before we can speak of slag from Canadian furnaces much information is required.

Trouble with Hyacinths.

55. I bought some Hyacinths last fall and they came along very well until the flower put in an appearance and then it died away. Can you explain the reason in your question drawer and oblige, A. H., *Yorkville.*

Reply by H. Simmers, Toronto.

THE Hyacinths, withering in the bud as you describe is not uncommon where gas is used in the apartment in which the bulbs are grown. My recent experience has proved that bulbous roots generally are more averse to coal gas than any other class of plants usually grown in windows. If you will say where you grew your bulbs, I can better define the cause of the withering of the flower bud. Do you burn gas? If you answer this question for me in the next issue, I will take an interest in the matter and explain in such a way that you will be able to avoid the natural disappointment you must experience with bulbs which so decay.

The Tree Cricket.

56. Enclosed please find pieces of my Russian cherry which seem to be affected by some disease, or else from some insect. Kindly inform me of the danger, if any.—E. ROBINSON, *Glendale, Ont.*

THE twigs of your cherry are affected by a common insect enemy, the Tree Cricket, known to entomologists as *Œcanthus niveus.* It is especially troublesome to raspberry canes by depositing its eggs in them in the autumn, and frequently also injures the young twigs of the plum, peach, and cherry in this way. The female has a long ovipositor and with this she pierces the young wood in autumn obliquely more than half way through, and in the opening places one of her yellowish eggs. Ten or fifteen eggs are thus placed in a row, side by side, as in the sample you send. The limb thus affected is henceforth useless, and should be cut off and burned before the warm weather hatches out a fresh progeny.

Plums.

57. Could you advise me about the best varieties of plums to plant?—T. RICHARD, *Alvinston.*

EVERYTHING depends upon the purpose for which you wish to grow plums. If for market, the following varieties should be profitable in Lambton, viz:—(Yellow) Coe's Golden Drop, Imperial

Gage, Gen. Hand, Jefferson, Washington and Yellow Egg; (purple) Glass and Columbia; (red) Bradshaw, Lombard and Pond's seedling.

Small Fruit Culture.

58. Where can I procure a book on this subject. T. R., *Alvinston.*

WRITE Orange Judd Co., 751 Broadway, New York, for catalogue.

Apples for Profit.

59. Which varieties would you advise?—T. R.

SEE April No., page 92.

Vinegar from Tomatoes

60. 1. Can vinegar be made from the expressed juice of green or ripe tomatoes, as from apple juice?—J. P. W., *Horning's Mills, Ont.*

Reply by Mr. D. W. Beadle.

I never made any vinegar in my life. From what little I know of chemistry, I should say he would not be able to make vinegar from green tomatoes, and I do not know whether there is enough sugar in ripe tomatoes to make vinegar, never having made any experiments with tomato juice in this direction.

Destroying Mildew.

61. 2. In your paper, page 285, year 1886, reference is made to dusting grape vines with "sulphate of iron and lime." Would this be equally efficacious for the mildew on gooseberry bushes? If not, would sulphur and unleached ashes be an efficient application? The sulphur killing the parasite, while the ashes stimulate the bush to renewed vigor.—J. P. W.

Reply by Mr. D. W. Beadle.

SULPHATE of iron and lime are both destructive to vegetable fungi, and I presume would be efficacious for the destruction of mildew on goosberry bushes, if applied in season. I would expect better results from the sulphate of iron and lime than I would from the sulphate of iron and unleached ashes. If the gooseberry plants need fertilizers, I suggest an application of nitrate of soda and superphosphate of lime to the soil. I have never used the sulphate of iron and lime mixture on gooseberries with a view to destroying or preventing mildew, as I do not cultivate in my garden the varieties of gooseberries subject to mildew, preferring to grow those that are not subject to mildew, and so save myself the trouble of applying fungicides.

Growing Black Currants.

62. On page 134, year 1885, T. A. H. gives a method for growing the black currant. Would results from this be producive of more and better fruit than the ordinary mode of procedure?—J. P. W., *Horning's Mills.*

Reply by Mr. D. W. Beadle.

I HAVE never tried T. A. H.'s plan of growing black currants or alternating cutting back, so as to produce young wood upon which to grow the fruit. Theoretically, it seems to me probable that the results might be productive of more and better fruit; yet I have never tried the experiment, and your inquirer would do well to make the experiment and let us know what the result is.

Lawn Failing.

63. This spring my lawn looks very bad, some patches, twelve feet square or more being killed out; there are other smaller places where the grass is about dead. I have always taken a great deal of pride in having a fine lawn—it is about twelve years since it was sodded—every one remarking how very thick the grass was. Some two years ago I had a tank put up so that I could keep it green during the hot weather. I have a lawn sprinkler that I used a good deal; some days I had it running for an hour or two during the hot sun. I thought perhaps that might have been the cause of it dying out. Last year it was something similar, only not quite as bad, and it seemed to come again quicker. I have manured it in the fall with fine rotted manure for the last few years. I would be obliged if you could give me any information with regard to its dying out.—WM. CRAIG, JUN., *Port Hope.*

Reply by John A. Bruce, Hamilton.

IN replying to Mr. Craig's letter respecting the bare spots on his lawn, it is rather a difficult matter to assign the correct cause for such; it may have been caused by continuous watering from tank during bright sunshine. Ants frequently disfigure a lawn; a white grub, and often the common

wireworm, works a deal of mischief; have seen snow lie till late in the spring, and form into a mass of solid ice, under it the grass would be killed; it seemed to rot, probably from want of air. Would recommend Mr. Craig to dig up the bare spots and incorporate some new soil, resod or sow with lawn seed.

Coal Ashes.

64. Coal ashes are strongly recommended for pear trees, etc. Is it necessary to apply manure also?—W. W. R., *Toronto.*

Coal ashes are of little or no value as a fertilizer. Their chief value for pear trees would be as a mulch, serving to keep the ground moist, and thus promote growth. If the soil needs enriching, certainly coal ashes would not make it so. Wood ashes are a very valuable fertilizer for all orchard trees, including the pear, because it is about one-tenth potash, a substance which constitutes about one-half the ash of the fruit, while the rest of it is chiefly lime and phosphoric acid, elements which also largely enter into the composition of fruits. With wood ashes, there will be no need of any other manure; indeed, the nitrogen of barnyard manure tends to promote too rapid and succulent a growth of the pear, and predisposes it to blight.

Grape Syrup, or Condensed Must.

Reply to Question No. 15.

The Wine and Fruit Grower, a monthly journal published in New York city in the interest of wine makers and vineyardists, replies to question 15 as follows:—

"We presume the inquirer is talking about condensed grape must. Any fruit juice containing sugar can be condensed into a sugar or syrup by the application of heat. But as great chemical changes are wrought by the heat, it is of the first importance that it should be applied in such a manner as to preserve the constituents of the must in their original relations as nearly as possible. This cannot be done by "boiling," as maple syrup or sugar is made; it must be done by the application of heat in such a way that the temperature at no time exceeds 140° Fahrenheit. If the higher temperature is reached, the constituents are broken down and return to their original elements, and the volatile oils containing the bouquet is dissipated by evaporation. The product will then have a cooked or burnt taste and smell, and become flat and insipid, and the mineral salts only will remain unchanged. It is clear, therefore, that a method should be adopted by which evaporation could be secured at a low temperature, and this has been done. Two processes have been patented—one an Italian invention known as the Yaryan process, and a German known as the Springmuhl process; both are in operation in California, and 1000 tons of grape must was condensed this season and shipped to London.

"Now as to how it may be done by simpler or home-made appliances, our correspondent will see that it will be necessary to have a jacket-kettle, or evaporating pan, so arranged that the must shall be protected from direct fire heat by a column of water, and that a thermometer must be kept in the fluid constantly so as to watch and regulate the degree of heat. The best apparatus would doubtless be a jacket-kettle made of copper, so arranged that the must could be stirred, as the stirring would shorten the operation. This answers the first and second question.

"Now as to where to purchase such an apparatus, we presume it could be got at any copper-worker's shop where distillery and sugar-house utensils are made. Coppersmiths are to be found in all cities.

"The fourth and last question involves several considerations. It may be said there is no regular market demand for condensed grape must. The fact that the must from 600 tons of grapes used

last year and the 1000 tons used this year was all sold off en grosse to a few large operators, does not signify a regular market demand any more than one swallow makes a Summer. But we think that there will be a demand for all that will be made and offered in a merchantable condition. There is doubtless a big field open to its use in cookery. The fact that there are from 400 to 600 grains of Tartar in every gallon of natural must, would seem to point out that it might easily become an important factor as a mixing ingredient in any article where an aerating agent was required. All there is needed is a little baking soda sifted in with the flour and other necessary ingredients, and the whole wet up with a little condensed must dissolved in water to make fine biscuit or sugar cakes, etc. Then again it is so easy to make a nice harmless beverage by adding a little water and cooling on ice, at once food and medicine, as nothing is better for indigestion. We have no doubt that inside of five years condensed must in jars and cans will become as much a part of every grocer's stock as canned corn or any other canned or preserved fruits."

OPEN LETTERS.

Caragana Arborescens (Leguminosæ).

SIR.—All who have seen the Cytisus Laburnum, when in full flower, could not fail to admire its beautiful racemes of yellow blossoms, which are very appropriately named, Golden Chain; but unfortunately we here living in Canada, or at least in the greater part of it, have not the pleasure of beholding such a gorgeous floral display. Yet we can secure a substitute which is very closely allied to it, namely the Caragana Arborescens, and of the same color, but not racemose, although abundant in blossom, giving the small tree a very attractive appearance. It is perfectly hardy in our climate, being indigenous to Siberia. Planted among other flowering shrubs or trees of different colors it would evidently produce a pleasing contrast. If it was better known it would be more generally planted.

Probably some of our enterprising nursery men have it in stock, and if not some of the large nurseries in the States that deal in novelties will likely have it. Yours,

SIMON ROY.

Berlin, 9th Feb., 1888.

Experience with the Currant Borer.

MR. T. H. RACE, of Mitchell, writes that he had in 1884 two rows of currant bushes of thirty bushes each just coming nicely into bearing. But in June he noticed the tops turning yellow, caused, as he soon found, by the currant borer. Not being willing to sacrifice the affected canes in order to carry out the usual remedy of cutting them out and burning them, he spread dry hardwood ashes about one row, to a depth of one or two inches, and about 2½ ft. on each side. As a result that row made a much stronger growth than the other one, and the following season there was not a borer in that whole row, while the one not so treated was fully wors affected than before. He adds:—

Three years ago I treated the second row the same way, and for the last two years my White Grape, Cherry, Moores' Ruby, and Fay's Prolific currants have been the chief attraction of my garden.

This is my theory:—The parent fly is supposed to deposit her eggs in the currant bush during the latter part of July or early in September burrowing in the ground immediately under the bush during the day time and coming out after nightfall. The ashes were applied in the beginning of July, and they either caught the fly in the soil at that time and killed her, or they prevented her from finding a refuge there and drove her to more inviting quarters. Has anybody a better theory to offer?

NOTE BY EDITOR.—The cutting off and burning of the old wood which is sickly because hollowed by the borer is not so objectionable a plan as it would seem at first, because it promotes the growth of young vigorous wood which is more fruitful than the old canes. If the old canes were annually thinned out, and a plentiful supply of young wood always encouraged, there would be little trouble with the borer. Wood ashes are an excellent fertilizer, there is nothing more valuable.

Fruit in Manitoba.

SIR,—I am very much interested in fruit culture, but in this province we are restricted to small fruits. Apples, cherries, plums and pears are failures here so far, until some more hardy varieties are introduced. Such strawberries as Wilson and Crescent succeed fairly well with us, although the last two seasons have been rather dry for successful crops. It

would be a great boon to Manitoba if a hardy enough variety of apple tree could be found to resist our winters, but on the prairies shelter belts will require to be grown before any success will attend our efforts. After a residence of fourteen years in Manitoba I have come to the conclusion that the best conifer to plant in Manitoba is the Scotch Pine. I have tried a number of other kinds of evergreens, all from seed, but the Scotch Pine is the best. Of the deciduous trees the native Box. Elder or soft maple is the most hardy and rapid grower on our prairies.

ALEX. STEPHENSON.

Melrose, Man.

The Apple Prospects for 1888.

MR. JOSEPH TWEDDLE, of Stoney Creek, writes that after five years of very discouraging experience in apple growing, owing to the fungus spot, insect enemies, he believes that growers have reason now to take courage and prepare for better crops. The fungus has apparently disappeared for a time, the dark green foliage of the past season shows a more healthy condition of the trees, and the insects can now be successfully destroyed with Paris Green. He says,—Experience has shown those who have sprayed their trees the past season, that it saves the crop. One prominent fruit grower of Winona harvested and sold nearly $200 worth of apples off an acre thus treated, while on ten acres of young orchard not sprayed not a bushel of good fruit was produced. The trees were of the same age, and of the same varieties. I neglected to spray my own orchard, and although a fair crop set, nearly all were destroyed by the Codling Moth. I don't intend to be caught napping another year.

Death of Mr. George Smith, Port Hope.

SIR,—I regret I have to announce the death of our old friend, Mr. George Smith, who for a number of years acted as your agent here.

He went up to Barrie with his son, hoping the change would do him good, but he died in less than a week after.

P. GEORGE WATSON.

PORT HOPE, *9 May, 1888.*

Forestry.

SIR,—You know the estimate of the humorist on Horace Greeley's "What I know about farming." When I began to talk about forestry I found myself about as far on, and in my endeavor to learn something of the subject I conclude there is hardly any one in America who knows anything of forestry.

I would like very much to appeal to Prof. B. E. Fernow, the director of forestry for the United States, but I hold back, as the opinion I express would not be in as good taste if it came from him.

In the last number of *Garden and Forest* the question is asked, "Why is it not the best policy to cut out the mature wood from a primeval forest and let the rest grow?" and it is answered by the professor—probably the only possible answer is given, but to me it seems to mean that for a man who knows nothing of forestry, any course would probably be wrong.

There is one gentleman in Canada supposed to know something about trees, but I find him flatly contradicted in the public press on some points about timber on the prairie by a settler in the North-West.

Garden and Forest tells of another gentleman, a city forester (in Boston, I think), who proposed to destroy canker worms on the elm trees by boring a hole in the tree and inserting some mysterious powder, and says "it seems incomprehensible that a man in such a position could be guilty of such quackery."

At a late public meeting of a Farmers' Institute a botanist took credit to himself for establishing the fact that the black walnut is hardy in Eastern Ontario; and in some Ontario reports great doubts are expressed on the point. But I find that there are plantations from twenty-five bushels of nuts, now large enough to bear fruit in Lower Canada.

I need not quote all the diverse opinions of tree planters basing their views on special experiences or hasty conclusions. I will overlook a genuine mistake too, and congratulate a man who confesses ignorance or error. I want to learn from them all. When I first took an interest in forestry, I enquired into all these attempts and tried to follow up all that my neighbor writers or public men could tell me of the subject, seldom, however, to find the fact just what was first reported.

After noting all that tree planters and tree owners could tell me, I suddenly found out, that arboriculture was not forestry. Now, sird in your varied experience, if you have trie forestry I would like to know if there is any thing to be learned of forestry in Canada; and I may say that I am now quite conceited as to what I know about forestry, and I think I have told you how far I have got.

FOREST BEFLISSENER.

April 10th, 1888.

NOTE BY EDITOR.—We are pleased to say that we have the promise of a series of letters under this head from a gentleman who is practically engaged in the work. He writes under the *nome de plume* of "Forester," and his subject for this number is "The Wood Lot."

REVIEW.

Reports.

CENTRAL EXPERIMENTAL FARM, OTTAWA. *Report of the Entomologist and Botanist.* Jas. Fletcher, F.R.S.C., F.L.S., 1887.

We would call the especial attention of the fruit growing community to the excellent prospects of valuable assistance in the prosecution of their work now opening up in connection with the Experimental Farm at Ottawa. Here are employed by the Dominion Government the best specialists available in agriculture, horticulture, chemistry, entomology and botany, upon 400 acres of choice land, beautifully situated, with every appliance that money can furnish, all for the benefit, without charge, of every Canadian farmer who chooses to avail himself of the privileges thereof. And with such a man as Wm. Saunders as Director, whose qualifications for his position are acknowledged to be exceptional, we have especial occasion for hopefulness.

From the authorities of the farm reliable information may be had upon any question affecting the interests of the farmer, fruit grower or gardener, without charge, and even letters go free of postage.

This report contains forty-two pages, descriptive of insects affecting cereals, root crops and vegetables, fruits and forest and shade trees, with description of latest known remedies. It may be had free on application.

AMERICAN POMOLOGICAL SOCIETY. Session of 1887. The proceedings of the twenty-first session of the American Pomological Society, held in Boston, Mass., September 14th, 15th and 16th, 1887, together with the State fruit reports and catalogue of fruits, published by the Society, 1888.

The president of this society is Mr. P. J. Berckmans, Augusta, Florida; the secretary, C. W. Garfield, Grand Rapids, Michigan, and the vice-presidents represent the States in the Union and the Provinces of Canada. All progressive Horticulturists who study their profession from a scientific standpoint, should unite with this society, which is so thoroughly divested of all local interests. One paper of considerable interest in this report is that by H. E. Van Deman, chief of the Department of Pomology, on "Identification of Varieties of Hardy Orchard Fruits." Such subjects as "Commercial Fertilizers," "Pests of the Pomologist," "Behaviour of Fruits in different Altitudes," etc., are ably treated upon. A valuable scientific paper is also included by Charles Gibb, of Abbotsford, Que., which may also be obtained separately from the author, on "The Nomenclature of our Russian Fruits." This paper deals with no less than 988 varieties of apples alone. The catalogue of fruits at the end is not the least important part of the book, shewing as it does the varieties best suited to each state.

REPORT OF THE SECRETARY OF THE STATE BOARD OF AGRICULTURE. *State of Michigan, 1886-1887. H. G. Reynolds, Secretary. Agricultural College, Mich.*

This, a volume of 565 pages, bound in cloth, and contains Department Reports, Bulletins of the Agricultural College, and a Review of the various Farmers' Institutes, held during the winter, with copies of principal papers read and discussions thereupon. It seems to us that Canada is behind her neighbor in this particular, and that very much valuable matter might be gleaned at our various institutes, which should be printed for the general good.

THE WESTERN NEW YORK HORTICULTURAL SOCIETY. *Proceedings of the thirty-third annual meeting, held at Rochester, Wen. and Thur., Jan. 25 and 26, 1888.*

A pretty full report of this meeting has already appeared in these columns.

THE MONTREAL HORTICULTURAL SOCIETY. *Reports for 1884-5-6, bound in one volume.*

A very creditable volume. It lacks, however, one very important feature and that is a complete index at the end of the whole three volumes. How much valuable information is often locked up in our libraries beyond our reach just for lack of indexes.

THE MASSACHUSETTS AGRICULTURAL COLLEGE. *Twenty-fifth Annual Report, January, 1888. H. H. Goodell, Amherst, Mass., President.*

FORESTRY CONVENTION. *Proceedings of Convention held in Grand Rapids, Michigan, January, 1888.* Bulletin No. 32. Agricultural College.

Miscellaneous.

Burbee's How and What to Grow in a Kitchen Garden of One Acre. Fully illustrated. Paper 50c. W. Atlee Burbee. 475 N. 5th St., Philadelphia, Pa. A really practical and useful book.

HINTS ON CACTI. *A. Blanc & Co., 314 North Eleventh St. Philadelphia, Pa.*

Far more than a mere catalogue, this book contains beautiful pictures of all the more interesting Cacti, together with valuable hints for their cultivation.

ELLWANGER & BARRY'S CATALOGUE. *Mt. Hope Nurseries, Rochester, N. Y.*

Three catalogues bound together in cloth, making a complete and invaluable descriptive list, first of fruits, second of ornamental trees, shrubs, etc., thirdly of strawberries, and fourth of select roses.

MISCELLANY

Nigella.

The double blossoms are surrounded by a mist-like veiling of a finely cut foliage, and is often called "Love-in-a-Mist," or "The Lady in Green." A writer in the *Mayflower* thus beautifully speaks of it.

I'm in love, said Sweet William,
I cannot deny it ;
It disturbs all my rest
And destroys all my quiet ;
She's the fairest and dearest that ever was seen,
The sweet little lady who lives in the green.

Her eye is so mild,
So tender and blue :
Her dress is so dainty
And modest in hue ;
Her smile is the sweetest I ever have seen,
My dear little lady who lives in the green.

Her name is Nigella.
Don't tell it, I pray,
Lest the bee and the humming bird
Hear what I say ;
For their gossip might frighten my fair little queen
The sweet little lady who lives in the green.

Landscape Gardening.

THE so-called landscape-gardener is in many cases not as intelligent as an ordinary every-day laborer ; his object seems to be to have as many narrow and contorted walls as possible where they are not needed, to plant many trees and shrubs in the most inappropriate places, to make ridiculously-shaped beds, and to plant them with but one object—to use as many plants as possible without regard to suitability. It is surely worth the attention not only of those engaged in the business, but of gentlemen who have country houses, to consider at least the fundamental features of landscape-work and landscape-art. There can be no stereotyped plans for the embellishment of grounds ; each domain calls for different treatment and different grouping.—*Century.*

Among the Blossoms.

BY MRS. J. C. YULE.

MAY's softest perfumes scent the balmy air,
Around. beneath, above, and everywhere ;
But one fresh bud in spring's young beauty dressed,
Excelling and outvaluing all the rest,
Leans with soft blush-rose cheek on a young mother's breast.

Far from the pomp of cities and the gleam,
Radiant yet false, of Fortune's fickle beam,
Amid the shade of overhanging hills,
Neath whose grey cliffs the softly chiming rills
Creep forth with music murmurous and low,
Each tender petal with unfolding grace
Shall shed increasing sweetness round the place.

Will the full blossom as the bud be fair,
Of hope fulfilling all the promise rare ?
Oh, guard it well, you, to whose care is given
Life that may bloom amid the bowers of Heaven,
Vieing with angelhood in all the bright
Effulgent glories of that world of light !
Rear for the Master's use this flower of love
To bloom at length in fairest bowers above,
On Heaven's own air its perfumes soft to pour,
Nor dread the frosts of earthly winters more.

Beautiful Valley, Grimsby, May 27th.

How to Dry Flowers.

To preserve the color when drying flowers it is necessary to dry them as quickly as possible. Almost all, except fleshy flowers, will keep their color well if placed between two sheets of blotting paper and ironed. The iron must not be too hot. To retain the color of red orchids, dip the flower while fresh in a mixture of four parts spirits and one part spirits of salt. (Take care not to let this mixture fall on clothes, as it will burn them.) Let the fluid dry off the flowers by exposure to the air, and press them in the usual way. To glaze flowers, use any transparent varnish. The secret of pressing flowers and leaves is to frequently change the paper in which they are placed and to avoid too sudden pressure at first.—*American Horticulturist.*

WINTER ST. LAWRENCE

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 7.

THE WINTER ST. LAWRENCE.

Of late it has been the practice in some quarters to disparage the efforts of those who originate or introduce new varieties of fruits, on the ground that by means of glowing circulars, handsome colored plates and overdrawn descriptions, they are making fortunes out of the pockets of an over credulous public, and at the same time giving them varieties inferior to those already in cultivation.

Now while this is in many instances true, and we, as guardians of the interests of our brother fruit growers, would warn them to invest very sparingly in two-dollar novelties of any description merely upon the seller's recommendation, we must at the same time put in a plea for the toleration and even the encouragement of that branch of horticulture by which new varieties are produced and made public property. Do not all agree in extolling the merits of the Wilson strawberry, and yet not long ago it was a novelty, raised at Albany, N. Y., by a gentleman named James Wilson! How firm a place in the lists of first-class grapes is held by the Concord, and yet not long ago it was a novelty raised from seed by E. W. Bull of Concord, Mass! And so of most of our finest fruits now in cultivation, and who knows how far we may in time eclipse the record of the past. We therefore are desirous of forwarding this line of horticultural progress, not in the interests of nurserymen, but in the interests of fruit growers. We aim at informing our readers as early as possible concerning the origination of new

fruits, and then as soon as tested in Canada, to make known the result, whether favorable or unfavorable.

The Winter St. Lawrence which has already been referred to on page seven of this volume, promises to be a valuable addition to our very brief list of desirable hardy early winter apples. It has been secured in a limited quantity for distribution by our Association in the spring of 1889, and will then be widely tested. So far as we know, it has not yet been grown in Ontario, but Mr. R. W. Shepherd, jr., has had some eleven years experience with it in the vicinity of Montreal, and says it is hardier than the well-known Fall St. Lawrence. In his list for profit he gives the following order: (1) Fameuse, (2) Duchess, (3) Canada Baldwin, (4) Winter St. Lawrence; but he adds that the latter drops from the tree less than any of the other, and is very noticeably free from the codling moth's attacks, when compared with the Fameuse.

As a table apple for the months of December and January it is very desirable, having the dark stripes and splashes of carmine of the Fall St. Lawrence, and a tender juicy flesh somewhat similar to that of the Fameuse. In this last characteristic is its chief fault, because like the Fameuse it is too soft to ship well in barrels. However, Mr. Shepherd has tried shipping it to England in the Cochrane case with excellent results, and by this means the difficulty of its exportation may perhaps be overcome, at least providing the Cochrane case is not too expensive.

From the samples which were sent us last winter, we judge that our coloured plate gives a fair representation of this apple.

HINTS FOR THE MONTH.

PRUNING FOR FRUITFULNESS.—When an apple or a pear orchard has been highly cultivated and manured it is sometimes found to produce a very vigorous wood growth, and little or no fruit. This has led cultivators to resort to various expedients for producing a fruitful condition, and among these summer pruning, performed between the 15th of June and the 20th of July, has been found somewhat effective. The removal of a portion of the limbs of foliage in winter or spring would result in a more vigorous growth, but at this season the shock checks the circulation, and tends to the formation of fruit buds.

Root pruning will also tend to decrease the vigor of a tree, and so induce fruitfulness; this should not be done in the growing season, but rather in the autumn or early winter. Ringing, or removing a ring of bark from a quarter to half an inch wide, in midsummer, is practiced by some, as it stops the descending flow of sap and compels it to produce fruit buds; but this practice is generally condemned. Bending a limb downward, or tying a band tightly about a branch, will sometimes have an equally good effect. We noticed an instance of this in the orchard of a friend, where the childrens' swing rope had been tied about one of

the limbs, and as a result that limb was weighed down with fruit, while the rest of the tree was barren.

We are of the opinion that the cause of so much barrenness in the orchards of some portions in Western Ontario is to be found, not in a too vigorous growth, but rather in a lack of vigor; and that the remedy that is more frequently needed is better care and cultivation, rather than any of the cures mentioned above. Too often the apple or pear orchard is expected to go on year after year producing abundant crops without any attention, unpruned, uncultivated, unmanured, subject to bark lice, canker-worm, borer, web-worm, codling moth, etc.; and then because the acre of orchard does not pay as well as the acre of grain or roots, which has had all the work, and all the manure, the owner in disgust resolves upon its total eradication.

Cultivation and Fertilization.—After many years of careful experiment we must give our vote for at least an occasional working up of the apple, pear, and quince orchard with the plow and harrow, even when full grown. When the new shoots are less than a foot in length, the foliage a light shade of green, and the fruit is below the average in size, a thorough working up of the soil will be one of the most effective means of restoration. No doubt where the ground beneath the trees is densely shaded so that it cannot become sod-bound and where by top dressings of suitable fertilizers, the soil can be kept sufficiently rich, it would be a mistake to introduce the plough. The cherry tree especially needs little cultivation, and little manure; and the pear tree, if forced to a very vigorous growth, will meet an early death from blight, but on the other hand, if starved, the fruit will be knotty and worthless.

Mr. J. S. Woodward, Secretary of the New York State Agricultural Society, recently stated that an apple orchard draws more heavily upon the soil than grain growing. One hundred barrels of apples, in his estimate, removed from the land about as much phosphoric acid as one hundred bushels of wheat, and about as much potash as fifty bushels of wheat. He therefore concludes that potash and phosphoric acid are the principal elements which we should take pains to apply to our orchards.

The Flat-headed Apple Tree Borer. *(Chrysobothris femorata.)* Having in time past, lost some valuable apple trees from this unfriendly excavator, we warn our brother orchardists against his depredations. The months of June and July are the season when the parent beetle is most active in her search for a favorable place under the scaly bark, or in the crevices of the trunks of the apple trees. When an orchard is growing vigorously the young larva seems to be outwitted by the rapid growth of the wood, but when an orchard is grass bound and

(*a*) Fig. 56. (*b*)

growing very slowly, the trees are almost sure to suffer, and oftentimes, if neglected, will be wholly destroyed.

The beetle is about half an inch long, of a shining greenish black above, and like burnished copper underneath, and will be readily recognized from the engraving. It is said to sometimes attack the pear and plum trees, but we have never been troubled with it except in our apple trees, where it was trouble enough until we knew how to fight against it. The presence of the larva may be detected by the rough, dark, and sometimes cracked state of the bark, usually on the north or north-

west side of the trunk, or by the fine chips which they exude from their holes when quite young. A sharp pointed knife will soon discover the hateful intruder, which will be at once seen to be truthfully represented in fig. 56 *b*, with its great flat head, which is altogether out of proportion to its body. Washing the trunks of the trees at this season with some alkaline solution is the easiest way of saving our orchards from this borer, as for instance with soft soap reduced with a solution of washing soda and water, the latter in the proportion of a quarter of a pound to a gallon. Another formula is: Take one quart of soft soap boiled in two gallons of water, and while hot stir in one pint of carbolic acid. Others recommend a pint of kerosene instead of carbolic acid. By applying such washes as these early in June a double gain can be effected, for it would then also kill the bark lice which threaten to be the destruction of our Canadian orchards, unless the tiny creatures be carefully and persistently fought with until destroyed. At Maplehurst we have been applying various washes during the past two years, pure kerosene, kerosene and soap emulsion, caustic soda and water, washing soda and water, etc., etc., all with good effect; excepting that the caustic soda, unless much diluted, burned the bark as well as the lice, and the pure kerosene, though effectually destroying all lice, also killed great patches of the bark and threatens the destruction of the tree. In applying these washes we usually take a scrubbing brush for small trees, and an old broom cut short to stiff bristles for the larger trees, carefully first scraping off the loose bark with an old hoe. For the bark lice one application should be sufficient, but, if the borer is very troublesome, two or three would be more a certain remedy.

The Grape Vine Leaf Hopper (*Erythroneura vitis*), commonly miscalled "thrip," is very active during this month, and of late years has become so abundant as to cause most serious injuries to many of our vineyards. The insects pass the winter in the perfect state, under leaves or rubbish, and lay their eggs in spring on the young leaves. In June the larvæ hatch out, and after a time develop into perfect insects, continuing their evil work until late in the season. They suck the sap from leaves, working away with their sharp beaks most industriously upon the under side, and when disturbed they either dodge about the leaf, or else hop and fly about the vines in swarms.

We have had some success in destroying them with blazing torches after first beating the vines with a stick, and also by use of pyrethrum powder. Mr. Saunders in his work recommends the former, and also syringing with strong tobacco water, or soap suds, or dusting with sulphur and lime. Mr. James Fletcher, in his last report, says the remedy which gives most promise of success is a weak kerosene emulsion, in the proportion of one of kerosene to thirty of water.

The Peach-tree Borer.—We would warn all our peach growing fraternity against this very insidious and destructive enemy of the peach orchard. Many a tree has been destroyed on account of supposed yellows, or dies of premature old age when a little careful work with a knife would have saved it for many years. The perfect insect has transparent wings, and measures about an inch and a half long from tip to tip. On this account, and on account of its slender body it somewhat resembles some kind of wasp. Its scientific name is Ægeria exitiosa. The eggs are deposited during the month of July and August on the bark just at the surface of the ground, and this fact suggest a very simple and effective remedy which we have employed effectively at Maplehurst for years, viz.,

mounding up the trunks of the trees in June with fine earth. By this the young larva, or borer, cannot find his way in to the tender bark of the root, where his pleasure is to girdle the tree before he emerges to enjoy his honors as a full grown moth. The larva when full grown is about half-an-inch long and of a pale whitish-yellow colour; its ugly red head, and black paws are only too familiar to those of us who have year after year had to fish them out of our damaged peach trees, until we learned that "one ounce of prevention was worth a pound of cure." If however anyone has neglected the proper precaution the only means of saving the tree is by faithfully digging out the grub as soon as fruit season is over. Its presence may be very easily detected by the secretion of gum just at the surface of the ground. A little clearing away of the earth, and a little probing with the knife or awl, and the scalawag will be found, doing his best to girdle the tree before his little trick is discovered.

Remedies.

The botanical division of the Michigan Board of Agriculture publishes the following remedies :—

For downy mildew and black rot of the grape :—Solution of sulphate of copper— one pound of sulphate in twenty five gallons of water.

For soaking grains before sowing to destroy smut :—Solution of sulphate of copper— five to eight pounds of sulphate in ten gallons of water.

For blight and rot of the tomato and potato :— Bordeaux mixture— four pounds sulphate of copper—four pounds lime and twenty-two gallons water.

For mildew and apple scab :—"Eau Celeste"--Dissolve one pound of sulphate of copper in two gallons of hot water, and when the water has cooled add one and a-half pints of commercial ammonia (twenty-two), and when used dilute to twenty-two gallons. The above is also sometimes modified by the addition of two and a half pounds of carbonate of soda.

For mildew on roses, celery leaf blight, pear and apple scab :—Sulphide of potassium—one quarter to one ounce to the gallon; also solution of hyposulphite of soda—one pound of soda to ten gallons of water.

For mildew on grape vines :—"Liquid Grison"—boil three pounds each of flowers of sulphur and lime in six gallons of water until reduced to two gallons; when settled pour off the clear liquid and bottle it; for use mix one part with one hundred parts of water. For powdery mildew of the vine, simple solution of half-a-pint of carbolic acid in ten gallons of water.

Sulphur in the powder is also used for grape mildew and the powdery mildew of the vine.

For tomato and potato blight and rot :—Sulphated sulphur— thoroughly mix three to eight pounds of anhydrous sulphate of copper, with nine to ten pounds of flowers of sulphur, or mix two pounds of the copper with twenty pounds of the sulphur and two pounds of air-slacked lime. Other similar remedies are also given.

Cut-Worms and Striped Bugs.

A writer in *The Farmer* gives the following remedies :—Paris green mixed with ten times its weight of flour and sprinkled on sod cut in little squares of $2\frac{1}{2}$ or three inches, inverted and placed at intervals along the rows of cabbages, will kill cut worms. They crawl under the sod, eat the poisoned grass and die. I have found a half dozen dead under one piece of sod.

Take a stick six or eight inches long, wrap it with cloth, saturate with kerosene and stick in the squash and cucumber hills, and the pestiferous little striped bug will stay away. He likes squash but not to the degree that he dislikes kerosene.

ADVICE TO FRUIT GROWERS AND SHIPPERS.

AS the fruit season is now at hand we think it would not be amiss to drop you a few lines regarding the putting up and shipping of fruit, for insertion in your valuable Journal.

As Strawberries are about the first fruit to make their appearance, we would recommend that the fruit be carefully and cleanly packed and the baskets well filled. Baskets require to be well filled because they get a good deal of handling and shaking before they reach market, and if this is not done they will show up slack, and will not sell as rapidly or at as good a price as otherwise. Use the twenty-four quart basket crate in shipping.

This package is coming more into favor every season, and we believe that it will eventually entirely supersede all other packages for the shipment of this fruit. It is of a nice suitable size, and comes nearer to meeting the requirements of the grower, the carriers, the commission men and the public generally, than any other package we have yet seen, and we trust that it will not be long before all growers adopt it. This package is not returnable and this therefore does away with all the trouble and annoyance experienced in past seasons on that account. Raspberries, Blackcaps and Kittatinnys should also be shipped in this package. Other small garden fruit, such as Cherries, Currants, Gooseberries, etc., are preferred in the twelve-quart basket and sell most rapidly when shipped in that shape. Plums and Peaches are best shipped in the twelve-quart basket, and Grapes in the sixteen-quart basket. In all instances carefully observe to fill all packages well. Cover baskets nicely and securely with cardinal or blue leno, whichever is the most suitable to the fruit you are shipping, then attach your shipping labels securely to each basket, and write your full name and post office address plainly and distinctly on each label, and thus avoid loss and confusion when they reach market. Apples and Pears can be profitably shipped in the twelve-quart basket when they first commence to come in and are of choice varieties; but as soon as they commence to come in freely, they do better properly packed in barrels and shipped by freight; it will cost less to put them up and ship in that way then to put them in baskets and ship by express.

Avoid shipping on holidays when possible, as mostly all places of business are closed up, and as a rule arrivals have to be held over until next day or closed out to pedlars at very low figures. Also avoid shipping on late trains as the early closing movement is in operation here, and all grocers are compelled to close at seven o'clock, p.m. Fruit arriving on the morning or early afternoon trains meets with the best and quickest sale, while anything by evening trains generally gets left over until the following day.

We noticed last season that a great deal of fruit was shipped from the Grimsby section by freight, and when shipped that way it would as a rule reach our market in time for the morning trade, but it frequently arrived in very bad order, possibly, caused by want of proper conveyances by the cartage agents or indifferent handling by the Railway Company. We would like to see the fruit coming by freight as a general thing, providing these difficulties could be overcome.

Growers are no doubt all aware of the trouble they have had in past seasons, when shipping by express for want of sufficient accommodation. Trains will not stop at the stations long enough to enable the express people to load it properly, and the consequence is that it is thrown on in any way and

frequently reaches market in very bad shape on that account.

We know of no remedy for this unless the growers can make some arrangement with the Railway Company to give them a local or fruit train to run once a day, which will stop at all stations sufficiently long to enable the express people to load the fruit properly, and reach Toronto as early in the day as possible, or say late in the evening when it can be disposed of early the following day.

In conclusion we strongly urge all growers to put their fruit up honestly, make it a good straight sample throughout, as good at the bottom as on the top. Buyers here are very keen now and when they once buy a package of fruit and find it does not turn out all through the same as on top, they note the shippers name and the next time they see any fruit from the same shipper, they approach it with great care and will not pay as high a price for it. On the other hand if a buyer sees a brand of fruit come in that he has had before and found it to be honestly put up, he will not wait to look at it a second time, but buy it quickly. Good brands get to be known as well as bad ones.

Trusting these few remarks may be of some benefit to your readers,

We remain, Sir,

Yours respectfully,

McWILLIAM & EVERIST, Toronto.

SEEDLING PEACHES.

SIR,—Your mention of the peach crop in the June HORTICULTURIST leads me to tell you that in our garden, in a spot against the kitchen wall (rough cast) grows a seedling peach that was here when we came to the house five years ago. Three years ago, it bloomed for the first time, and the fruit proved to be quite different from any we have ever seen. It is large—often nine inches round—of a pale green, with whitish flesh, a free stone, and very late in ripening, never ready until October. As a table fruit it is not desirable, having neither flavour nor sweetness, but for preserving, I do not know a better.

For drying in sugar after the fashion of the expensive boxed French fruits, it is superior to any peach I know of. Twice I have dried it, and with the fullest success. The flavour is delicious, and the texture all that can be desired. Is not here a new fruit industry. If you would like to know more of it, I shall be happy to inform you.—S. A. CURZON, *Toronto.*

SEEDLING, or natural peaches, are usually found to be hardier than such tender varieties as Early and Late Crawford, Old Mixon, etc. Very often after a severe winter our peach crop has consisted of only such kinds as Hales, Purples, and Late Naturals. Nor are seedlings to be altogether despised in Ontario. Indeed it is from them that many of our best varieties have been selected, and by careful attention to growing them, no doubt kinds might be originated more suited to our country than many of those now cultivated. The Early Canada and Bowslaugh's Late are examples of what may be done in this direction, the former a Clingstone resembling the Alexander, and the latter a fine late yellow flesh peach of good quality somewhat resembling the Early Crawford. Both of these are Canadian seedlings.

The Wager peach is another fine example of success with seedlings. It originated in New York State, and is very large, yellow, juicy and of fine flavour. It is comparatively hardy and reproduces itself fairly well from its own seed. We have grown seedling peaches at times quite extensively at Maplehurst, and while many of them have been unworthy of the room they occupied, we have occasionally found a tree well worthy of cultivation, both on account of size, and because it would bear fruit when tender kinds were cut

off. Another advantage is that most seedlings are quite late and ripen after the main crop is over, and the markets are no longer glutted. Most of them too are well suited for drying, being freestones, and of sufficient firmness to be easily parted in halves. Though not at all adapted for the dessert table, they are more desirable in the opinion of the writer, for that prince of dishes for the tea table, known as "*peaches and cream*" than any of the sweeter and higher flavoured kinds. They have just enough acid to make them delicious, when served in this way. Another excellent addition to our dinner tables of late years is a jar of "*pickled peaches.*" In our estimation no pickles are half so palatable as these, none so wholesome. Here again the seedling peach is most serviceable.

Without seeing a sample of Mr. Curzon's peach, it is impossible to say whether it is a seedling worthy of special propagation or not, and if he would choose to send one to this office at the proper time we should be glad to state how it compares with other seedlings with which we are familiar.

TRICKS OF THE TRADE.

By Parke Earle, President, American Horticultural Society.

ONE grave reason why the building up of regular fruit trade is more difficult than it should be is the irregular quality and serious imperfections of a majority of the fruits sent to market. Both the dealers and consumers soon get disgusted when they find half the peaches in a basket, or half the apples in a barrel, wormy; and in the case of the peaches find all of them green, hard and inedible below the top layer; and even the top course seeming ripe and well colored only when seen through the delusive tarlatan which is bound tightly over them. A basket of green peaches with a goodly supply of worms, and with sizable specimens placed on top, and then all covered tightly and beyond examination by a colored netting which makes them all appear blushing with ripeness, is a cheat and a fraud so contemptible and disgusting that it should consign the perpetrator of such a swindle to the tender couch of the county jail. It is only equaled by a barrel of apples that is faced up handsomely at both ends and is filled with scabby and wormy scrubs through the middle.

I regret to say that such baskets of peaches and such barrels of apples are forced off upon an innocent buying public by hundreds of thousands every year. I think and hope that the most abused fruit market in the world in this respect is that best of all the fruit markets of the world, the city of Chicago. I will venture the guess here that, of all the millions of people that have this year bought peaches coming through the Chicago market, not one in four has had occasion to bless the growers of the fruit; and in most cases he has been objurgated, if not cursed. I dwell particularly upon this kind of fruit and this kind of package because it is the most notable example of a wide-spread attempt to deceive the buyer to be found in all our fruit marketing history. It will not be a good excuse to say that red tarlatan is necessary to hold the fruit in place in the basket, because *white* netting with a very open mesh will serve that purpose equally well and will not obscure the real color. And no well-colored peach can be made more beautiful by any kind of

covering. Is it any wonder that respectable grocers dislike to trade in our fresh fruits, and that the people get sick and weary of buying them, when the opening of every new package is the unveiling of a new deception ?

I am a fruit-grower, a fruit-packer, and a fruit-buyer, and I stand here in all three capacities to protest, in all the earnestness of my soul, against all kinds of deception in fruit-packing. It is impolitic in the highest degree, and it is unworthy of all decent men. A large dealer not long since said to me that the whole business of fruit-packing, east and west, north and south, with now and then an exception, is worm-eaten, and rotten with dishonesty. My friends, I hope his denunciation was unjust, and I believe it is far too sweeping, but severe criticism is called for.

Let us away with all stuffings and facings, with all deceptive coverings, with all undersized packages, with the packing of all green, half-grown gnarly and worm-eaten fruit in any kind of packages. If we must pack poor fruit, put it on top where it will tell its own story. Let us do this, and we shall find that it will pay in money, pay in the plaudits we shall win from all men, and in our own self-respect and integrity of soul. *From Address of Eighth Meeting, San Jose California.*

FLOWERS

CRAB CACTUS —(fig. 57.)

AS we have a reference to this Cactus, known as Epiphyllum, in our Question drawer, we give a picture of the one most commonly cultivated, viz., E. truncatum, for the benefit of those who have not as yet become acquainted with it. One of its good qualities is that it is a winter bloomer, and by means of several different plants an unbroken succession of bloom may be had from November to February, each plant remaining in bloom for some three or four weeks. It is also a free grower, and easy of propagation. Mr. Blanc says that a very common mode is to graft them on Cereus Speciosissimus stocks, by which means the drooping habit of the Epiphyllum is more gracefully displayed. This Cactus grows on trees in Mexico, and also on rocks among mosses. Its name is derived from the Greek *ἐπί φύλλον* meaning, *upon a leaf*, having reference to the situation of the flowers.

FORESTRY

MY FIRST PLANTATION.

By "Forester."

I WAS captivated easily when I first heard of the easy growth of a plantation from seeds, or seedling trees, and these could be bought at all prices down to fifty cents per thousand. There are so many Government reports in the United States and some in Ontario, giving such full particulars that it seemed very short work to get it all done; and so it is, but there are difficulties.

In the first place the suggestion to raise the stock from seed is unfortunate, true they are as easily raised as vegetables, and a person really interested and experienced in gardening and who has time to give to it, will not have much trouble and will soon be greatly interested.

I tried seeds and have worked at them for several years, without any previous knowledge of the business, and have had fair success, but when the labor was paid for and the losses counted, I found it would be cheaper to buy the seedlings up to two or three years old and a good deal of time would be saved, but I will continue to plant the seed I hope just for curiosity, as long as I have any place to plant the trees. No two kinds of seeds come on alike or as one would expect, and several varieties said in the books to be no more difficult than usual have failed entirely. There is no practical benefit in sowing seeds of the coniferous trees, and I find that the leading nurseries don't take the trouble to do so, for in Scotland and France where the climate is more suitable, the large nurseries furnish them at very low rates and really supply the trade. Mr. Phipps in his last report gives fairly full particulars and instructions for evergreen seed beds, but it a very doubtful benefit unless to biginners, and any body making a business of it had better learn fully in some established nursery, and amateurs trying and failing are easily discouraged.

Starting again I tried to get a small plantation sooner than from seed by importing seedlings—none being offered in Canada. Trees are easily started in this way, but those I got did not act as I expected. I sent for them in good time in the spring but they were longer on the way than I expected and different kinds do better at particular seasons, and when I buy any more I will look out for that.

The prices of these trees will not prevent any one trying plantations. The small seedlings are not much more by the thousand than by the hundred.

I think the Black-walnut cost, per 1,000, $6.00; White-oak, per, 1000, $2.00; Box-elder, per 1,000, $1.25; Cottonwood, per 1,000, $2.00; Elm, per 1,000, $3.00; Pine, per 1,000, $3.00; Hickory, per 100, $2.00; and larger trees two or three years old are not usually more than $1.00, $2.00 or $3.00, per 100, and will be three or four feet high. There appear to be a great number of these wholesale nurseries in the northern and western States, and they advertise freely both there and in Canada. The editor of the Horticulturist may be right when he says, the Canadian nurserymen will supply us with fruit trees as

cheap as any foreign stock, but I cannot find any who will quote a price either for fruit or ornamental trees less than three times as high as the American, without reference to quantity, and as we are all freetraders now I am trying nearly all imported stock, and with proper care in packing by the shipper and in setting in well prepared soil, I found no trouble in my plantation. My experience was however, that the trees two or three feet high were less risk and less expense in small lots. In a plantation of a great many acres the cost might be more an object than the subsequent cultivations, but there are no difficulties in either to prevent us all trying.

What is Forestry?

What is Forestry?—It is the same as agriculture—a business. The difference is only in the kind of crop and in the manner of treating the crop. It is the production of a wood crop we are after. This is the crop that grows, or can be made to grow, on those parts of the farm which are useless for all other crops. It is a slow-growing crop, to be sure, but it grows while you are asleep, and you need put it in to the ground but once, where it will thrive without further care for many years; and, if properly started, it needs no hoeing, no cultivating, no worrying about the weather. And when you come to reap it, it will prove to yield a profit from ground that would otherwise have been left not only unproductive, but unsightly in addition.

If only for the looks of it, a piece of young timber, thriftily growing, enhances the value of the farm. Therefore, plant the unsightly waste places to trees, remove those ugly spots from your farm which spoil its good looks. It costs but little more than an occasional day of enjoyable work.

Don't figure on the profit of the sticks that you are going to cut; there is profit indirectly on your surroundings accruing from such planting which defies all strict financial calculation, besides your own satisfaction which will surely reflect from such work beyond any direct money gain, though this will not be lacking either in proper time. It has been proved over and over again that a good wood-lot will sell the farm—if sold it must be—at a better price than it would have brought without it.

And you who are the happy owner of a wood-lot, treat it as the goose that lays the golden eggs; the eggs will soon be high in price, the goose is worth caring for! If you cut, don't cut the good trees only, and leave the bad ones to spoil the looks of the lot, and to injure the young growth that would be better off if the gnarly old fellow over head did not stand in its way with shade and drip. Always give some light and room to the young folks!

Forestry means more than tree-planting; it is the art of managing a wood crop so that it will produce itself spontaneously by the seed from the old trees, and afterwards helping the young growth to make the best timber in the shortest time. Nature will reproduce the forest and grow timber without care if allowed by man, but she takes time, and time is money—at least to a careful man and manager.

Then use your odd moments in improving your crop; the axe, too, is a cultivator in judicious hands.—*B. E. Fernow, Chief of Forestry Division United States Department of Agriculture.*

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

Notes and Comments.

THE PLANT DISTRIBUTION.—In sending out the trees and plants for testing, we have exercised great care to comply with the wishes of the members, and give each one exactly the plant chosen. Out of a membership of about 2000 it can scarcely be expected that no instances of failure to receive the right plant should occur, but as very few complaints have been received we presume that very few have been disappointed. The Ostheim cherry was much called for, and enough could not be furnished for all, hence a few have been asked to wait until fall.

The new list is now ready and will, we hope be found more interesting than usual. The plants are all to be furnished by reliable Canadian nurserymen and florists, who are responsible for the quality and condition of each package. In order to secure a share in this distribution, each member must indicate his selection previous to the time of distributing the plants, as that implies that the applicant agrees to the condition of distribution, viz., to cultivate with care, and in due time be prepared to report thereon through these columns. Anyone, however, who last spring did not receive the plant selected, or who received a wrong plant by mistake, may make two selections from this list when paying his next annual members' fee.

THE CANADIAN HORTICULTURIST EXPERIMENTAL GROUNDS.—Since he receive so many requests for his catalogue, the editor of this journal again repeats that he has now for some years retired from the nursery business, and given his whole time and attention to fruit growing and the study of horticulture. And although his fruit farm is already well filled with the most reliable varieties of apples, pears, peaches, cherries, grapes, quinces and small fruits that are suited to Canada, he will still devote a few acres to the careful testing of novelties in the interests of the readers of this journal. At the same time he wholly declines to receive any plants for testing under any promise, implied or understood, of noticing them in these pages. He

would however acknowledge the following, as they were sent him out of compliment to the F. G. A. of Ont., whose interests he serves.

(1) *Scions of the Paragon Chestnut*, from N. M. Engle & Son, Marietta, Pa. It is claimed to be very large in size, and of excellent quality. We have grafted them on the native variety, *Castanea vesca*, and hope soon to be able to say whether this new variety is worth being introduced into Canada.

(2) *A collection of twelve varieties of evergreens* from A. Gilchrist, West Toronto Junction, and among them some trees of Sequoia gigantea, the giant of California. Besides these a tree of Wisconsin Weeping Willow, and other plants of interest.

(3) *A packet of Saskatoon berries* from Rev. Geo. Bell, Kingston. These are the June berries of the North-West, botanically knows as Amelanchier alnifolia, and may be already known to some as the berries used by Indians in their "berry pemmican."

(4) *A collection of eighteen hybrid Perpetual roses* from F. Mitchell, Innerkip.

(5) *A collection of fifteen new varieties of strawberries*, three of each, from John Little, Granton, Ont., among which we notice Itasca, Logan, Mary Fletcher, Ohio, Covil, May King, Henderson, Summit, Bubach No. 5, etc., etc.

(6) *Scions of eight varieties of pears and two of apples* from S. D. Willard, Geneva, N. Y.

Another new Strawberry.—Mr. T. V. Munson, of Texas, writes the *Rural New Yorker* that he has met with a new seedling strawberry, which surpassed the Jewell, Jessie, or Buback, No. 5. It is large to very large in size, in quality better then the Crescent, and enormously productive. This year he states that it has produced at the rate of 15,000 qts. per acre! Should it prove equal to promise it will be called, "Parker Earle" out of compliment to the President of the American Horticultural Society.

A New Variety of Currant.—An exchange says:—The new current introduced last season under the name Crandall is supposed to be a hybrid between the cherry currant and Ribes Aureum. The introducers of this new variety, which originated in Kansas, describe it as bluish black in color when fully ripe, and varying in size from one-quarter to one-half of an inch in diameter, and growing in bunches of five to eight berries each. The flavor of the fruit is said to be peculiar to itself and superior to the English black currant.

Professor Budd, of Iowa, has expressed himself as believing the Crandall to be valuable for general cultivation. Vick, the well known New York seedsman, says that the currant worm does not infest this variety, and that it adapts itself to almost any soil. It appears to be especially prized for preserves and jellies.

Curl Leaf.

Curl Leaf in Peaches.—The curf-leaf disease in peach trees is caused by a small insect called the plant louse. As soon as you see the leaves begin to curl, take strong soapsuds water, and stir in a decoction of tobacco juice; sprinkle the trees with it. The tobacco juice may be obtained by steeping tobacco in water, and stirring the juice in the soapsuds water.

The above extract which is going the rounds of the public press is somewhat misleading. The curl leaf proper is not caused by the plant louse, but is the result of a miscroscopic fungus, called *Exoascus deformans*, which grows among the cells of the upper portion of the leaf and causes an unnatural thickening and widening of the upper surface, and thus forces the leaf to curl backwards. Fig. 58 shows a cross section of a healthy leaf, the upper surface being represented at *a* and the under surface at *b*. Fig. 59 represents the same as swelled and curled by the fungus. This is indicated

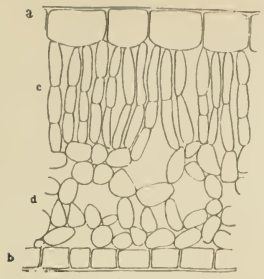


Fig. 58.—Healthy Leaf.

by the thick dark lines between the cells, and is the mycelium or vegetative portion which later on develops fruit-

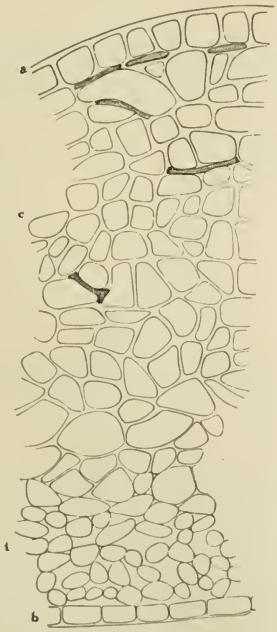


Fig. 59.—Curl Leaf.

ing branches or asci, in which the spores are produced for the propagation of the fungus.

This spring we notice however that the peach-tree aphis (Myzus persicæ) is very abundant upon the young leaves, sucking the juice from the underside, and thus also causing hollows underneath, and corresponding reddish swellings above, and this no doubt is the curl referred to in the article. These lice may be destroyed with the tobacco decoction, or kerosene emulsion, and the curl thus prevented so far as they are responsible for it; but so far as we know, no certain remedy has yet been discovered for the curl leaf properly so-called.

Horticulture in Massachusetts.

Rubber Fumes as an Insecticide.—At a recent meeting of the Board of Agriculture in Massachusetts, it was asserted that fumes of burning rubber was an excellent insecticide. Mr. Briggs has experimented with it, taking an old rubber boot and putting it on a bed of coals in an old pan, and carrying it about under his peach trees and grape vines; and found it drove away the rose-bug entirely. It also drove away the codling moth from the apple trees. He applied it early in the morning while the dew was on. One panful would do all the work on forty trees, walking as fast as possible. His theory is that the leaves retain the smoke, which is disagreeable to the insects.

The Yellows.—Prof. Auger, state pomologist of Massachusetts, has been a strong believer in potash as a cure for Yellows, but though he has used as much as eight and ten tons a year of ashes in his peach orchard he cannot report complete exemption.

The Quince.—At the same meeting Prof. Maynard commended high cultivation for the Quince, which he said was one of the very best fruits for canning, and exceedingly healthful. He has seen quinces of the orange variety, grown so large that fifteen of them would

make a peck, and colored finely. These quinces at once attracted attention in the market and sold by count at $6.00 per 100. This was brought about by careful pruning and heavy manuring. A heavy coat two inches deep of well rotted manure was spread about the trees in the fall and in the spring, this was forked in about the tree.

The difficulty we have found with quince growing for profit is to find the buyers. Our city cousins seem to know very little about this fruit, and buy it very cautiously. We need some schools of cookery established to open up a better knowledge of the uses of fruits.

Silviculture.

Prof. John Robinson's lecture on this subject before the Board of Agriculture of Massachusetts, was very interesting. The drift of it was that within fifty years there will be a great deal of timber in the United States. The marketable supply of White Pine from the three great pine producing states, Michigan, Wisconsin, and Minnesota, will be soon exhausted, indeed the supply in the whole United States is likely to meet a similar fate within the next fifty years.

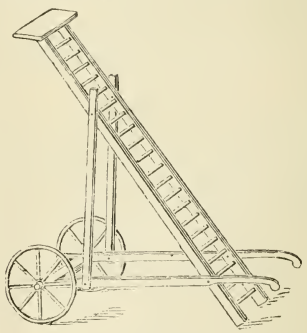
He advises a national forest policy and a national forest school. The former would include forest protection, forest guards, commissioners and inspectors. This would give an impulse to the study of the subject by opening up positions for duly qualified graduates of the School of Forestry. This latter he would have established on a basis similar to that of Westpoint Military Academy. The course of study should extend over a period of from five to eight years, and graduates given a permanent appointment in the forest service, with opportunity of promotion.

For the state of Massachusetts, Mr. Robinson advises the planting of the White Pine particularly. It is comparatively free from insects, and endures drouth well; besides it will bring profitable returns in a short time. He also commends the hickory, ash and chestnut.

We are glad that in Canada we have gentlemen who are giving their attention to this department of study, such as Prof. Brown, Thos. Beall, R. W. Phipps, T. M. Grover, I. C. Chapais, Hon. H. G. Joly and others; and we hope that through their zeal our country will be awakened to an interest in silviculture by no means behind that of her enterprising neighbor, the United States.

Fruit Ladder.

I have heard of a wheelbarrow fruit-ladder, but don't know exactly how it is constructed. I am an old man, and have no help, I want to make a ladder I can handle alone. Can you help me?—G. McG.



The accompanying cut shows how to make the wheelbarrow ladder. Get two hand-cart wheels, or any light stout wheels. The dimensions of the device may vary to suit circumstances. If the trees are tall, the ladder may be longer and stand straighter, etc. Care must be taken to secure foot of ladder by weights, to overbalance the weight at top. The board at top of ladder is to set the basket on.—*Ohio Farmer.*

QUESTION DRAWER.

Pomace as a Fertilizer.

65. Is the pomace, or cider mill refuse of any value as a fertilizer, or is it, as many persons hold, positively injurious?—F. M., *Innerkip.*

Reply by Prof. Panton, O. A. C., Guelph, Ont.

POMACE.—There is not much in as a fertilizer, but I believe it might be used profitably by putting it in a compost heap. Alone, I would have but little faith in its application.

An analysis shows seven eight per cent nitrogenous material which is the most valuable part of it for fertilizing purposes.

Grubs cutting off Hyacinths.

66. I would also like to know the best means of preventing the grubs from cutting of the Hyacinths—WILLIAM CRAIG, JR.—*Port Hope.*

Reply by J. A. Bruce, Hamilton.

WE are not acquainted with the grub that attacks Hyacinths. We note that in Holland Hyacinths are sometimes badly infested with a species of louse that works in the roots. This may be the trouble with Mr. Craig's, (have never seen it).

Reply by Anton Simmers, Toronto.

THE best way to prevent grubs from cutting off Hyacinths is to apply "Fir Tree oil" on the foliage, and in the soil in which Hyacinths are growing.

My experience has proved this an infallible remedy.

Rose Thrips.

67. I send you a leaf off my rose bushes to show you how badly they are affected with the Leaf-Hopper. What remedy do you consider the best?—W.

Reply by Jas. Fletcher, Dominion Entomologist, Ottawa.

I HAVE succeeded in destroying Rose Thrips in the same condition as those you send me either with soap-suds, made to the proportion of half-a-pound soap to a pailful of water, (the soap dissolves best when hot-water is used), into this I put one ounce of carbolic acid, and churn it well with a syringe so as to mix the carbolic acid well. Tobacco (one-quarter pound) shredded into the soapsuds instead of the carbolic acid, I have also found useful.

I have never tried a kerosene emulsion, but believe that in the proportion of one of kerosene to thirty of water, it would be found useful.

Cacti.

68. Your article on *Cacti* in the June HORTICULTURIST will be very useful to me. I am fond of Cacti and desire to get the best I can out of them. I have to large old ones of the *Phyllocacti* and have been abundantly gratified by the bloom they have given me these two years past. I bring them on to bloom by feeding them as soon as January with *hot water*—quite hot—poured carefully at the top of the pot and also into the saucer, never letting a drop stand, however.

One of them flowered twice last year. I had kept it in the hot house out of doors all summer, and in October it showed buds, (as soon as it had got used to the window again). This plant however, throws out a great number of leaves nearly round, from the ends of the flat leaves, while out in the sun. I did not like the growth, but would not interfere, hoping they would harden, but they did not, and now, as the plant had rested to the after blooming, I have cut out some of the old long leaves, and a good many of the round ones also, to improve, as I hope, the growth of the plant. Did I do right? or does it injure a cactus to cut it?

I have two little Mammillarias—or Bachelor's Pillows, as I have heard them called—poor bachelors!—and I shall be very glad if I can bring them to bloom. I have also another, an Epiphyllum, grown from a bit I got in a bouquet, and shall be glad to know how to get it into bloom. The hot water does not suit it, the texture of the leaf being too tender. I had one bloom once but the the plant died very soon after. Why was this? Another cactus I have is very rare, I never saw one until I got mine, and it is most curious. It is exactly like a series of round stems growing *straight up* from which pieces of stem an inch long, and very slightly attached to the main stem grow. The new growth is also *straight up*, very delicate and soft looking, but strengthing as time goes on. The plant is covered with prickles of the sharpest kind, and these seem to sting. They are very easy to get in, and very hard to get out. It drinks a good deal of water and grows very well. Can you tell me its name and special treatment. Your very obliged servant. —S. A. CURZON—*Toronto.*

Reply by N. Robertson, Ottawa.

Your Cacti starting so soon shows plainly it has been in a position with too much excitement for it. The early start was made before nature was ready for it, hence the leaves did not mature. It became exhausted before it was able to mature, a very weakening position to get a plant in. It is more than likely you will have to remove what remains unmatured. Cutting does no harm to them.

Mammillarias require a better soil and an evener temperature than most other Cacti. They are plants that like to be kept rather clean of dust and dirt. Don't over water them and they flower easily.

Epiphyllums will not bear extremes of moisture or dryness when put out in a shady position, but not under trees, at the back of a wall or fence where no drip gets on them. To be able to name the Cacti you have described would be a difficult task from the description. There are so many, so closely allied. Nothing short of a portion of it would do, or seeing the plant.

Root Grafts.

69. Kindly tell me how apple grafts are cultivated the first year. Is there danger of disturbing the roots in cultivation?

I bought a few root grafts this year which came on all right at first but do not look so well now. Have I hoed them too much? Is there any object in transplanting them till big enough for the orchard as they are to remain on the same farm?—G.

Root grafts need good and frequent cultivation in order to keep the ground loose and moist. If they were properly planted, we do not think you can hoe or cultivate them too much, nor is there danger of disturbing their roots. The danger lies rather in disturbing the scion so as to prevent the union between it and the root before it is complete. The slightest knock with the hoe will often do this.

The reason they do not now look as well as at first may be due to improper planting. Perhaps the earth was not packed firmly enough about the roots.

Transplanting trees once or twice previous to their final setting out is an advantage in nursery work because it encourages the growth of numerous fibrous roots, which can nearly all be removed with the tree, whereas in moving a tree of three or four years of age, that has never been transplanted, three fourths of the fibrous roots are so far from the trunk that they are cut off in digging. You can avoid the need of transplanting by setting your trees in their final places at two or, at most, three years of age.

Princess Louise Apple.

70. Can you inform me where the tree or scions of the Princess Louise Apple can be procured? If there has been an apple found superior to Fameuse it is a prize and a valuable addition to the apple list. W. CARVER, *South Livermore, Me.*

Messrs. Smith & Kerman of St. Catharines have full control of this apple, the writer having retained no financial interest whatever. No trees can be bought at present, but the F. G. A. may be able to secure a supply of yearlings for our distribution next spring by which means we hope to see it fairly tested in Ontario.

The Grape-Vine Bark-Louse.

71. I enclose you an insect I find on one of my Roger's Grape Vines. I only noticed it yesterday and I thought it was mildew, but I find upon closer inspection that it is the inclosed insect. The loose bark is full of small ones and where the loose bark is off the inner bark and the wood is split and full of the insect, and like bunches of fine white cotton wool. I would send you a piece of the vine but it is in a very fine flourishing condition and it is upon the large wood. Please tell me in the next issue of the Horticulturist what I had better do with the vine; and the name of the insect; whether it is injurious to the Grape-Vine or not.—Thos. G. Gaston, *Hamilton.*

The entomological name for this insect is Pulvinaria Innumerablis, the first name from Latin pulvinus, a cushion, referring to the cushion-like appearance of the mother insect, and the latter

name no doubt refers the innumerable mass of young lice concealed beneath. The cotton-like substance continues protruding until about the first of July, when the minute yellowish-white lice issue forth, and attach themselves to the bark sucking the juices. They should be scraped off as soon as discovered, or if too late for that, try an alkaline wash of two lbs of potash to seven qts. of water, or the kerosene emulsion elsewhere described.

LIGHT ON PREVIOUS QUESTIONS.

Coal Ashes.

THE following experience with coal ashes by a writer in the New York *Tribune* is worthy of note in connection with question 64. We judge the good effect produced was however chiefly mechanical, in which respect no doubt they are beneficial. He says:—One spring day some years ago I dumped a barrel of coal ashes in a corner of my garden. There happened to be a clump of Turner raspberries growing there, which, however, had never before done anything worthy of notice. That summer they took a new in life and threw up canes of such size that the following season I gathered much good fruit from them. I did not forget the lesson. My garden is a small one, but it is by nature of rather stiff clay, and from that time till the present I have put nearly all the ashes from both range and furnace into it.

Sometimes I heap them around the trees, which they protect excellently from the borer and other insects. Sometimes I spread them broadcast over the soil, or use them in the compost heap. Moistened and mixed with ground bone I have found them useful to sow upon the lawn in early spring.

The old notion that coal ashes are entirely worthless is certainly wrong. Though not possessing the strong chemical qualities of the wood ash (except so far as wood ashes are present in them), they do, I am convinced, in some measure assist to free the undissolved plant food in the soil. Of their value as a mechanical agent in lightening heavy soils there can be no doubt, as a little experience will show any one that they prevent the heaviest clay from becoming lumpy, and keep it in a condition easily accessible to the tender feeding roots of plants.

FRUIT CROP REPORTS.

JUDGING by the following letters from our directors concerning the fruit crop prospects in their various agricultural divisions, this year will be one to rejoice the hearts of the fruit growers. The apples appear to be setting well, even the King which usually bears very lightly, and the Baldwin which has been for years a miserable failure in many places. Pears promise to be an abundant yield, with as yet no sign of spot or crack. The Heart and Biggareau cherries are badly bitten by the curculio already (June 13th) and will be very thin in consequence, but the Black Eagle, usually a very shy bearer, is heavily loaded. Peaches are showing up well on little side shoots, which no one would ever think of examining in spring time, while the main terminal branches in many parts are barren. Grapes and small fruits are fairly encouraging, excepting Cuthbert raspberries and Kittatinny blackberries, which in many places are more or less winter killed. Our readers will be interested in the following letters.

STORMONT COUNTY.

Our Editor asks from each of the Directors of our Association a fruit crop report. He's too good a man to refuse him any reasonable request. But our Board are nearly all men working these days from early dawn till dark, our hoes are bright but our pens are rusty, and night finds us in bad shape for writing in style to be fit for the lively pages of the HORTICULTURIST. And here let me say that, without flattering the Editor, we have it from very competent judges, and are pleased to add our own testimony to it, that our little monthly is second to none in the Province, and gives evidence that we have a good man at the wheel.

The worst trouble the Association has to contend with seems to be the premium plant distribution. I know there is much trouble in the arrangement of these, as often the stock of certain plants ordered runs short and the unavoidable substitution of other things gives poor satisfaction; but Mr. Woolverton has advised all the Directors, in every case of disappointment, to promise amends for all failures to members next year. This faithfully fulfilled will go far to remove a difficulty hurtful to us.

The season here so far has been on the whole cold. On the 21st May we had a heavy frost, everything tender succumbed. 1st June we had hail—you are right to *hail* us as the "*cold north.*" For all this the crops are as forward as usual. Rarely have we seen the apple trees with so heavy a show of blossom. But oh, aithless man how many your doubts! Too much there will be for the trees to bear we say, too much for the market, *leopard like* as of old will be the fruit. These and a thousand other troubles we borrow, but our borrowed troubles are often our worst ones. Let us be thankful for present prospects and for the future let our motto be "Hope."

Strawberries. — There is a great difference of opinion as to the advantage of spring or fall planting. I am much in favor of doing every thing in the fall that will lessen spring work, but I don't think fall planting of strawberries does this. I planted three quarters of an acre last fall and as much more this spring, they both did well, but the fall-planted needed more winter covering, an expensive operation, and those planted this spring will be kept clean with half the labor.

Gooseberries and *Raspberries* give promise of a heavy crop. Some of my neighbors tell me their enemy, the worm, has again found them out. I have seen none on my bushes yet, but a timely dose of hellebore will stop their career.

I have far exceeded friend Woolverton's request and I dare say have taxed the patience of the readers of this sheet. Just a word more to them and I'll promise not to trouble them again for many days to come.

Summer Work.—In July and August is hard work. I'm a worker, and delight in work. Far better advice I can give, as to moderation in it, than I can put into practice, but my experience is that a very early start in the morning during the hot weather and *a good rest at mid-day* is the easiest way of doing a good day's work comfortably.

Rise with the birds and get a share of the worms. But as you can't burn the candle at both ends, follow their example at night.

JOHN CROIL.

AULTSVILLE, *June, 1888.*

LINCOLN COUNTY.

Sir,—It is with pleasure I comply with your request to give a report of the present prospects of fruit in this locality. The acreage of strawberries will be much below other years. The long continued drouth of 1887 prevented many from planting and greatly enfeebled old plantations, but those who succeeded in getting new plantations started will be amply rewarded by fine crops and no doubt good prices. Cherries, strawberries, raspberries and gooseberries are all showing a fine crop. Peaches, Grimsby's specialty, are promising a moderate crop, not nearly so abundant as last year but will make up in size and quality to quite an extent, probably will fall very little short of last year in the number of baskets. Pears are also setting a fair crop. I have noticed young trees which produced a profusion of bloom have set very litttle fruit. Grapes have been a little backward in starting, but are now pushing forth very rapidly and showing fine foliage and lots of fruit. Apples are also setting well, the best in years. The small boy may be seen with his tack hammer putting up berry baskets, the larger boy the peach and grape baskets, the cooper's hooping up the barrels with an eye that means business. I can only bring this to a close by saying the present outlook is cheery indeed. The healthful appearance of the foliage, the absence as yet of insect enemies, leads one to hope that we are again returning to the good old days when the curculio and the codling moth, the caterpillar and the beetle were not known. May the time soon come again when paris green and all deadly weapons of warfare are not required.

Yours, etc.,

A. H. PETTIT.

GRIMSBY, *June 15th, 1888.*

VICTORIA COUNTY.

SIR,—Judging from present indications fruit-growers may reasonably expect a fruit crop this season somewhat above average. The past winter seems to have been favorable to fruit trees generally. Although we had much stormy weather there was no extreme cold, the lowest temperature recorded here being—30°6 January 22nd.

The "oldest inhabitant" never saw a greater profusion of bloom than that we have just now witnessed. Apples, peaches, plums and cherries all bore a super-abundance of blossom. Plums however, have not set well, but pears are well started. It is too soon yet to speak of apples. The weather during the past week having been warm and dry and therefore favorable for the pollen would have left little room to doubt as to the result if the severe storm of yesterday

has not checked the fertilization process too soon.

All the small fruits, gooseberries, currants, and the different varieties of raspberries give promise of an unusually large crop. Strawberries, however, are not looking well, and the crop in this vicinity will be short. Grape vines are in excellent condition and never looked better.

The tent-caterpillar is unusually plentiful.

THOS. BEALL.

LINDSAY, *June 11th, 1888.*

SIMCOE COUNTY.

SIR,—With respect to fruit prospects in this section it never was better. Strawberries are thinned considerably by last year's drouth and winter killing, but are looking well now and showing abundance of bloom. Plums have set well and apples never gave greater promise of a large crop than they do now. Grapes are very backward on account of cool weather but are showing considerable bloom, and if we get warm weather the remainder of this month they will no doubt pull up and produce a good crop yet.

CRAIGHURST. G. CASTON.

KINGSTON.

SIR,—The spring has been so cold that all vegetation is unusually late, and fruit trees are only now in blossom. It has also been unusually dry, there not having been sufficient rain to wet the ground since the snow went off.

Small fruits.—Currants, gooseberries, and raspberries have come through the winter without material injury. The caterpillar has vigorously attacked the gooseberry as usual, and the crop will depend on a vigorous use of remedies. Raspberries promise well, but they are already suffering from want of rain. Strawberries have wintered well, and the blossoms are not injured by spring frosts, but unless abundant rain comes soon, the crop will be a failure.

Cherries.—The Red Morello is almost the only sort grown. Blossoms abundant.

Plums.—These look well. Blossoms abundant.

Pears.—Not largely grown. Look well; full of blossoms.

Apples.—These have passed the winter well, and with very little injury. The profusion of blossoms is unprecedented. This is probably caused by last year's drouth, which checked the growth to the extent required for an abundant formation of fruit buds. Spring frosts have not injured the blossoms, so that present prospects are favourable for a large crop.

All kinds of fruit as well as spring grain, vegetables and hay are suffering from the deficiency of rain.

GEORGE BELL.

Queen's University.

PRINCE EDWARD COUNTY.

SIR,—This has been one of the coolest seasons and the most backward I ever remember. After all it has been favorable for the setting of fruit, which bloomed about 8 days later than usual. Apples gave an abundant blossom and have set well. The prospects for an abundant crop was never better at this season of the year. Pears are somewhat in advance of the apple, and have set an immense amount of fruit without an appearance of mildew as yet. We can usually see it without the aid of a glass, but I fail to find any yet. Plums and cherries have set an immense crop. Insects will have to be fought. They have already made their appearance; the codling moth and the curculio more particularly. Grapes and all small fruit have wintered well and promise an immense crop. Strawberries are not being planted so extensively this spring as formerly. The vegetable crop must be light unless we can discover some means of destroying the cut worm; the crops are nearly all being cut off by them.

P. C. DEMPSEY.

ALBURY, *9th June, 1888.*

TORONTO, (York Co.)

SIR,—In reply to your inquiry regarding the fruit crops, I must say, that being confined to the office as much as I am, I could not give an exact report from my whole district; at the same time I have driven into the country in different directions the past week or ten days, considerably, and have also made all possible inquiries, and the universal report is, that the fruit crop promises well. Nearly every kind of fruit is making a good average showing, and the season being so late, I feel that the danger from late frosts is almost past, and we may look forward to a good fair crop not only in small fruits, but in apples, pears and plums.

Yours truly,

TORONTO. W. E. WELLINGTON.

OXFORD COUNTY.

SIR,—In reply to your request for a report of the prospect of the fruit crop, I send you the following. Apples have made a great show of bloom, but are not far enough advanced yet to predict definitely what the crop may be. Pears and plums promise fairly well in the matter of bloom. Small fruits of all kinds have made an unusually abundant show of bloom. Strawberries promise very well; gooseberries the same. Currants of all kinds are dropping badly and there will be but few berries on a string. Raspberries came through the winter in good shape and the prospect for a crop is consequently good. Blackberries in this section, with the exception of the Snyder, are badly winter killed. Grapes show a great amount of bloom, but are very late. Cherries will be very scarce as the black knot has destroyed nearly all the trees.

F. MITCHELL.

INNERKIP, *June 9th, 1888.*

WENTWORTH COUNTY.

SIR,—There is in this section a prospect for an abundant crop of fruit. Apples, pears, plums and cherries have shown a great profusion of bloom, and from present appearances there will be a full crop. Peaches also promise a fair crop, particularly on young orchards. Small fruits have passed through the winter in good condition.

Strawberries will not produce more than half a half a crop; owing principally to the drouth of last season new plantations made very little growth. They will also be later than usual on account of the dry cold backward spring.

Some vineyards that were very heavily laden last season are starting slowly; many of the buds on the bearing canes do not start, and do not appear to have been fully matured; probably the vines have been weakened by the heavy crop and severe drouth of last season.

The prospect for a full crop of fruit is good, much better than usual.

M. PETTIT.

WINONA, *June 10th, 1888.*

LAMBTON COUNTY.

SIR,—I write in answer to your request for fruit prospects for this summer.

Apples.—This crop I believe from present appearances will be quite up to the average. A number of the trees have missed, but those which have bloomed have set fruit so well that we expect a good crop. *Pears.*—Our pear crop was very heavy last year, especially on the Flemish Beauty; and many of the trees did not bloom this spring. Those which have bloomed have set fruit well and promise a crop; on the whole the pear crop will be light. We are spraying with paris green water to destroy the codling moth. *Cherries*—gave an abundance of bloom, but only a small proportion have formed fruit; crop light. *Peaches.*—The trees were badly injured during winter, many of them are killed entirely. No crop in this class. *Plums.*—This fruit, though very heavy last year, will likely yield a fair crop this year. They are not quite so thick on the tree but are spread over well and will no doubt be fine fruit. *Gooseberries.*—I have had a few hundred fine bushes of the Industry, White Smith, Crown Bob, Downing and Smith's Improved. I have them fruiting two years without any sign of mildew yet. The greatest grower is the Downing. Crown Bob is the slowest grower. They all bear well. Smith's Improved bears very abundantly. Among the large sorts White Smith has so far borne the best. This year just when gooseberries and currants were in bloom we had a very severe frost which we feared had destroyed all the fruit blossoms, but there is enough left of all to make a two-thirds crop. This is all that is necessary to say about the currants. *Raspberries.*—The winter did bad work among the canes, especially with Gregg and Cuthbert; worse with me than in former winters. They are putting up very heavy new growth, no doubt owing to the top being less. *Blackberries.*—We are growing the Snyder, they were injured somewhat during winter but I would consider them hardy; they are showing good signs of fruit. *Strawberries.*—These we grow on the matted row system, on account of the dry summer last year. Our rows are narrow, but what plants we have are well loaded with fruit. I grow mostly Wilson. I have tried many other kinds, but Wilson suits me the best, all things considered. *Vegetables.*—Our vegetables are a little late on account of the backward spring, but look even and promising.

Respectfully

A. HILL.

WYOMING, ONT., *June, 11th, 1888.*

HURON COUNTY.

In the county of Huron and in the south portion of Bruce county apples promise to be a good crop. Cherries and pears a fair one, and plums rather poor.

Yours truly,

WINGHAM. J. A. MORTON.

MONTREAL.

SIR,—The prospect is we will have an immense crop of fruit of all kinds on the island this year, trees were white with bloom. I just got an award of $4,200.00 for an acre of my garden land taken by the C. P. R. Co., including damages. I think I may safely say they have gone through the best orchard in the Province of Quebec. I think the duty taken off apples will cause us to have lower prices for our summer apples. Our Montreal Fameuse are much thought of in the New York market, so we may be compensated for the loss on our summer apples, if we get good prices for our Fameuse. I think I will have a few new Russians to report on this fall.

I am, yours truly,

R. BRODIE.

ST. HENRY OF MONTREAL.

THE MONTREAL MARKET.

SIR,—The excessive heat of past week has had a bad effect on strawberries, where in many cases they are drying up, and no doubt the crop will be short. The prospect for other small fruits is good, and we expect a good market for them.

California peaches, apricots and plums are coming on nicely and selling cheap, but the quality is mostly poor.

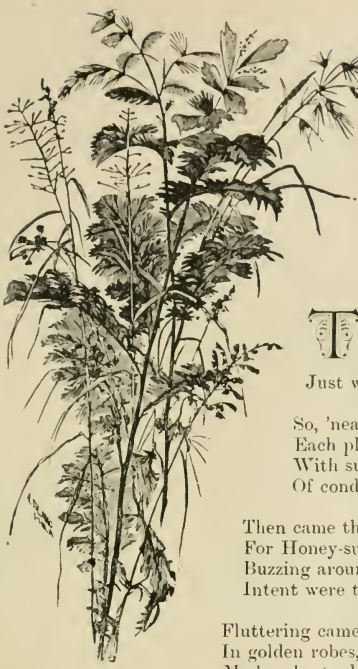
The removal of customs duty on apples and peaches will effect the prices here on them somewhat, if American crops is large, but under ordinary circumstances there is nothing to fear from American apples or peaches.

No doubt a great many American apples will be marketed here, but as they are nearly all exported it will not change values. The real regulation for the price of apples in Canada is first the crop here, and the United States, and second the crop in England; of the latter we have no reports yet. Our own crop reports are conflicting, but half a crop of good fruit is sufficient for use and trade.

We will be pleased to furnish any information we have to your valuable paper.

Yours truly,

June 23rd, 1888. VIPOND & MCBRIDE.



[For The Canadian Horticulturist.]

THE FAIRIES' BAZAAR.

By Grandma Gowan, Mount Royal Vale, Montreal.

TWO fairy sprites, Carrie and Clare,
Resolved to hold a garden Fair,
And serve to Butterflies and Bees
Just what they love, and what would please.

So, 'neath the maples, wide and tall,
Each placed a pretty tiny stall,
With such a fragrant bright array
Of condiments, and flowers so gay.

Then came the fussy wandering Bees,
For Honey-suckle or Sweet Pease;
Buzzing around, from stall to stall,
Intent were they on gobbling all.

Fluttering came gay Butterflies,
In golden robes, and starry eyes,
Made a hasty lunch on "Stock"
And hovered off; a happy flock.

Old neighbour Toad came limping past,
Ah, ha! cried he, I see at last
Where I'll get something for the throat,
My cousin Frog, has such a croak.

And while upon my stool I rest,
Put up some Balsam, of the best,
Spruce-gum too, roll up with it,
'Twill cure me of my hated spit.

Poor little Toad! I'll bind your limb
With Ribbon Grass, its just the thing.
(Oh, why do wicked boys throw stones
To give you pain and broken bones?)

There's grand Old Man, and Father Thyme,
Sweet William too, and Columbine,
Ladies' Slippers, with velvet bows,
(No thimble heels, or needle toes!)

Coxcombs too! we have a score
Very cheap! they're such a bore.
Bachelor Buttons, by the gross,
And oh, such green inviting Moss!

Pine needles too, for sewing leaves
Just the same as mother Eve's,
They're also good for sewing Tares
Such as the Ragged Sailor wears.

Here's Juniper, from overhead
Where old Elijah wished him dead,
The Wandering Jew brought from afar,
On Thistle down's light aerial car!

And Sea-weed, from God's public highway,
Foxglove from dame nature's by-way;
See the lovely Golden-rod
Pointing up to nature's God.

And here's green Shamrock, from Armagh,
Crush'd by the Saxon Lion's paw!
* * * * * * * *
The clouds are cradling round the sun,
The Fairie's long day's work is done.

Each takes her little spruce pine pillow,
And goes to rest beneath the willow;
The lovely orphan! Queen of night!
Will shine o'er them, till morning light.

REVIEW.

AGRICULTURE OF MASSACHUSETTS.—Thirty-fifth annual report of the Secretary of the Board of Agriculture, Boston, 1887.

A very useful and readable volume of 800 pages, coming with the compliments of Massachusetts Agricultural College. It appears that the Massachusetts Board of Agriculture meets with the various county Agricultural Societies on their invitation, and the most valuable of the addresses and papers given are carefully preserved for publication. Some notes on this volume appear on p.

WHAT TO DO, AND HOW TO BE HAPPY WHILE DOING IT.—A. I. Root, Medina, O., author of the A. B. C. of Bee culture.

A readable book of nearly two hundred pages, written with the object of suggesting to those out of employment how to do something profitable at home, without going to the cities to seek places in over-crowded shops and factories.

CENTRAL EXPERIMENTAL FARM Bulletin No. 3, Smuts affecting wheat. By Jas. Fletcher, F.R.S.C.

BOOMER AND BOSCHERT PRESS CO., SYRACUSE N. Y., 1888.

A catalogue of sixty pages showing a large variety of presses, and some very useful cider and wine presses at all prices, $164.00 to $341.00,

Prize List, Industrial Exhibition, Toronto, Sept. 10 to 22, 1888. H. J. Hill, Toronto, Manager and Secretary. This pamphlet of 72 pages is very neatly gotten up and well illustrated. The prospects for the fair are very encouraging.

Vol. I, No. 1, International Fair Journal, devoted to the fair to be held in Buffalo, N.Y., September 4th to 14th.

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 8.

AUGUST, month when summer lies
Sleeping under sapphire skies;
Open all the windows wide,
Drink the orchard's fragrant tide—
Breath of grass at morning mown
Through the leafy vistas blown—
Hear the clinking of the scythe
Sound mellifluent and blythe.
August, month when everywhere
Music floats upon the air
From the harps of minstrel gales
Playing down the hills and dales.
August, month when sleepy cows
Seek the shade of spreading boughs,
Where the robin quirks his head
Contemplating cherries red.
August, month of twilights when
Day half goes and comes again;
August days are guards who keep
Watch while summer lies asleep.—*Ex.*

THE ROSE.

QUEEN of Flowers! How appropriate the title! And if, in the days of Sappho and Anacreon, this proud title was considered applicable to the Rose, when probably not more than two or three cultivated varieties were known, how much more suitable is it now when, after two thousand years of worship at its shrine, it has developed beauties then unknown, and varieties unnumbered.

It was a puzzle to us at one time to understand the meaning of the term "sub rosa"; the literal meaning was clear enough, but what was the sense of such a phrase as "under the rose?" Well it seems that in ancient days the rose was sacred to Harpocrates the patron of Silence, of which therefore the rose was the symbol. The phrase therefore means secrecy concerning all that follows; and, with the same idea, a rose is sometimes suspended over the dining-room table to remind every one that silence should be observed concerning that which is said "sub rosa" at dinner. It is with no such idea that we now write "sub rosa"; we have nothing to conceal, but on the contrary desire to write *super rosam* and to publish, for the benefit of all, any information we possess upon the subject of Horticulture.

The garden classification of roses is not very simple, for the characteristics of the varieties have not been well defined by nature. A simple and convenient general division is (I) *Remontant* (Fr. growing again), which includes our valuable hardy roses, known as Hybrid Perpetuals. The latter is an ill-chosen name because they are not perpetual bloomers, but make distinct and separate periods of bloom during the season. The most prominent representative of this class is General Jacqueminot, a perfumed, beautiful dark crimson rose, especially valuable in bud. It was introduced from France in 1853, and the rage for its precious buds was so great in New York city that on one special occasion four of them were sold for $15 each. Alfred Colomb is another exceedingly fine red rose of this class, and, though not so strong a grower, it is large, deeply built, and deserving special mention. Another rose just now (July 19) in bloom in our rose walk is of a brilliant rosy crimson color, especially when first unfolding; the General Washington. It is large and very double, but one cannot help a feeling of disappointment in finding that it lacks perfume.

In the second (II) division we may place the Bourbon, China, Tea, Musk, and others which are truly perpetual bloomers, and mostly very fragrant, but too tender for out-door cultivation in Canada.

In the third (III) division, we have the Garden, Moss, Brier, and Climbing roses, or those which bloom only once in a season. Madame Plantier is the most prominent among the garden roses; its spotless white flowers, amid its rich foliage, speaking to us of that purity which is so worthy of our highest aspirations. Among the mosses, the Crested is

the finest for buds ; but the most vigorous grower in the *Princess Adelaide* of which a very handsome painting is shown our readers in this number. It is an old variety, originated by Laffay in 1845, but is one of the most desirable of its class. The foliage is large and sometimes variegated ; its bright * pink, or rose colored, flowers are produced in clusters, and are very double and well formed.

DOWNY MILDEW.

PROF. F. LAMSON SCRIBNER of the Botanical Division of the Department of Agriculture of the United States, has just issued a report that is of considerable interest to grape growers. It contains the result of extended experiments conducted during 1887 in various parts of the United States, under the direction of the department, with several preparations of salts of copper for the destruction of Downy Mildew and Grape Rot.

A previous report had well described these fungi, and so prepared the way for intelligent operations. The Downy Mildew (*Peronospora viticola*) is of common occurence in Canada, especially upon some of the finer varieties, as for instance the Salem, and is parasitic upon the leaves, young shoots and berries. The mycelium, or vegetable portion of this fungus, is only to be seen by microscopic examination of the green portions of the vine in which it grows. It does not penetrate the cells of the leaves, but grows between them, drawing nourishment from them however by means of minute suckers. As a result the cells turn brown, and ultimately the change of color is noticeable externally.

The downy white patches of mould from which this mildew gets its name, and which are unfortunately so well known to grape growers, appear on the under side of the leaves, and are slender filaments growing out from the mycelium through the breathing pores (*stomata*) of the leaves. Upon these

FIG. 61.

the summer spores are produced, tiny organisms corresponding to seeds of plants, so small that their longest diameter is only the six ten-thousandth part of an inch.

FIG. 61, which we copy from Mr.

Scribner's report of 1886, represents the filaments growing out through the stomatum or breathing pore of a leaf, and bearing the summer spores (*Conidia*) upon their summit, all of course greatly magnified. The number of such spores which may be produced upon a single vine is estimated to vary from two to ten millions; a fact which clearly explains how quickly a whole vineyard may be "struck" with mildew. One of these spores, falling upon a moist grape leaf, will germinate in a couple of hours, by dividing into distinct particles of naked protoplasm; these swim about for about twenty minutes by means of fine hair-like cilia attached to one side, and then settle down at rest and push out a germinal tube which penetrates the leaf and develops into a new mycelium.

The two remedies which have proved most effective in destroying this fungus are (1) the copper mixture of Gironde (or Bordeaux mixture) and (2) blue water (or Eau celeste).

The *Bordeaux mixture* has already been recommended in our reports, but we give the most approved formula, viz: Dissolve in a wooden vessel 8lbs of sulphate of copper in fifteen gallons of water; and in another vessel slake 10lbs of lime in 5 gallons of water. When both are cooled pour the latter slowly into the former, mixing the fluids thoroughly.

The *Eau celeste* is prepared by dissolving 1lb of sulphate of copper in 3 or 4 gallons of hot water. When dissolved and the solution cooled, add 1 pint of liquid commercial ammonia. Dilute to 22 gallons.

Both these remedies are proved to be an absolute remedy for mildew; but to be effective three treatments are necessary, the first during last half of May, the second during the last half of June, and the third during the first half of August. To avoid injury to the foliage it may be necessary to use a weaker solution for the first treatment than for the second or third.

For applying these solutions the French have perfected excellent spraying machines of moderate cost. We copy an illustration of the Japy machine, which will give our readers a better idea of it than a written description.

Fig. 62.—Japy Spraying Machine.

With this machine it is claimed that a single workman can treat ten or fifteen acres per day.

We hope our Canadian vineyardists will not be left behind by French or American growers. Negligent growers will be discouraged and driven out of the business by fungi and insects; while the enterprising and industrious vineyardist will have all the advantage of an improved market thereby, and succeed in cultivating varieties of special excellence, otherwise rejected because of the difficulties attending their culture.

THE SUMMER MEETING.

THE town of Picton is beautifully situated on a harbor of the same name, and is the chief town of Prince Edward County. Hithero somewhat out of the course of the regular line of steamers, it will henceforth be no longer at that disadvantage ; for the Murray canal, which will soon be completed, will enable the steamers to sail through the Bay of Quinte, calling at Picton, Belleville and Trenton on their way.

Mr. P. C. Dempsey, our director for this county, met us at Trenton and very kindly took us out to his fruit farm ; for nothing is so interesting to a fruit grower as a visit to the orchard of a brother fruit grower. Mr. Dempsey's orchard of about fifty acres, consists chiefly of apple trees, of all the more profitable kinds, together with a good many sample varieties which he is testing. The varieties which he considers most profitable are the Duchess, the Wealthy and the Ben Davis ; for although the later is poor in quality, yet its even form, good color, and productiveness make it highly valuable for export. His orchard has good and clean cultivation, and being situated upon an elevated slope, shows off to good advantage

The meeting at Picton was one of great interest to all fruit growers. Specialists were present in the various departments of Fruit, Flowers and Forestry, and the result was most profitable.

Among those participating in the discussion were Chas. Gibb, Vice-President Montreal Horticultural Society ; W. W. Hillborn, Horticulturist of the Experimental Farm, Ottawa; T. M. Grover, Norwood; Alex. McD. Allan, and many others.

The local attendance was comparatively small, because it had not been well published by members in that vicinity. This was a serious loss of valuable information to the fruit growers of the county, who, had they been notified of the meeting would no doubt have been present in hundreds.

Our special thanks are due to the County Council for giving us a most enjoyable trip up the bay some five miles in a steam yacht to visit Glenora ; a picturesque summer resort, with a very curiously situated lake at an elevation of nearly 200 feet above the Bay of Quinte. How this lake receives its constant supply of beautiful clear water no one seems to know ; whether by means of a submarine connection with Lake Erie, or by some more mysterious means.

The kind courtesy of the Picton friends did not stop here ; they so strongly urged the officials of our Association to remain over for a trip to the far-famed "Sand banks" that we consented ; nor had we cause for regret. Fine large excursion carriages were provided, drawn by first-class carriage horses and the ten mile trip was soon made ; showing us a fine farming and fruit growing district on our way, but alas ! parched and baked by reason of one of the most protracted drouths ever known. What a strange sight those sand banks are ! Great hills of sand, white as snow and fine as flour, covering several hundred acres of land, and constantly encroaching upon the farms so unfortunately situated. Well worthy was the excursion of the time it occupied, and our friends well deserved our parting cheers and song as the train hurried us away from Bloomfield station :—

> "For they are jolly good fellows
> Which nobody can deny."

We cannot close this account of our reception at Picton, without making especial mention of Mr. Wellington Boulter, the proprietor of the Bay of Quinte Canning Factory. This

gentleman began the business in 1882 and has now one of the largest industries of the kind in Ontario.

He puts up about half a million cans annually, and was the first to ship a car load of canned goods through via C.P.R. to British Columbia. His fruit is put up in such an excellent manner that it is sold without any solicitation for orders, as is evidenced by the fact that last season he shipped six car loads to British Columbia, and twenty-three to Winnipeg. As fruit growers we desire to encourage this industry everywhere, as one which provides for the disposal of our fruits, and largely adds to the profits of the Canadian fruit grower.

HORTICULTURAL.

Keep the Cultivator Going.

"The Snyder blackberry is good for drying on the bushes," is the criticism of an Illinois blackberry grower. I think this is a slander on the Snyder, I grow blackberries by the tens of acres, and in my thirty years experience, 1887 and one season ten years back were the only ones in which the vines received no rain from the time of blooming until the entire crop was gathered. Even under this test the Snyder did not dry on the bushes, but filled out well till the last berry, and were sold at big figures. The reason most blackberry growers fail in these dry seasons is because they don't properly cultivate. They say it is too dry. This is just why plants need culture, and I give it to them. I do wait until the ground is too dry and hard to run a cultivator through the rows but begin early and cultivate three to four inches deep every ten or twelve days until the crop is gathered, ceasing only in time to allow the canes to mature well. It seems hard to teach most fruit growers this particular trick, and for this reason I make more money from my raspberries and blackberries in dry seasons than I do when the weather makes them produce good crops with but little labor. I find the Tyler or Souhegan (I cannot see any difference in them) to be very profitable. They are hardy and early, most all gathered and sold when the Greggs come into market, and are wonderfully productive. If properly cultivated, they keep up with me till the last picking.—[N. Ohmer.—*In Farm and Home.*]

Growing Strawberries.

Almost every owner of a garden thinks he knows all about growing strawberries, but it is not everyone that tends to them properly. There are only a few varieties that will pay to grow in hills with the runners kept off, and as a rule these kinds are fond of a heavy soil. As examples, the Triomphe de Gand, Jucunda and other large, highly flavored English berries may be thus treated. A portion of the runners, as well as every chance weed, should be taken from the beds now. This will soil the fruit unless covered with a light mulch, but no one should think of growing strawberries without mulching. This berry delights in water, and some of the finest we have ever grown were regularly irrigated. Although small, the vine is a gross feeder; the ground must receive plant food with no stingy hand before and after planting. It is a popular delusion that an abundance of manure causes more leaves and less fruit. This may be true with shy berries, but does not hold good with all. The Albany in its palmy days could be almost doubled in size by feeding. After the the crop has been gathered the mulch

should be removed, the soil fertlized and cultivated until Autumn, when the mulch may be replaced in the shape of long straw manure. Strawberries ought always to be grown in rows with sufficient space to run a cultivator between. It pays in many ways, but above all in the matter of clean cultivation, which the bed system rarely obtains.—[Josiah Hooper.—*In Philadelphia Weekly Press.*]

The Cause of Peach Yellows.

I HAVE had much experience with the peach yellows, and have used all known remedies ; yet some trees would be healthy and others would have the yellows. I believe the disease is not simply due to lack of potash or of culture or of pruning, or of general management, but to something back of all these, which I shall name as difference of heredity. If we could absolutely get back and behind all bad heredity, all tendency to disease and keep free from contagion by all insect influence, I should think we were on the high road to success against the peach yellows. Meanwhile, my advice is to plant only the best trees of medium growth on land of only moderate fertility. Give moderate yearly rations of a special peach manure, and cultivate well up to mid-summer ; but then quit. Remove at once any trees that appear diseased. Prune judiciously so as to get even well-rounded heads. Thin out sufficiently to let in sunlight, and a free circulation of air, doing this just before the buds show color in spring. Thin the crops severely. When the tree is matured, manure liberally.—[P. M. Augur, Connecticut State Pomologist. —*In Farm and Home.*]

NEW STRAWBERRIES.

By JOHN LITTLE, GRANTON, ONT.

SHALL we test them? "Yes" by all means. And for several reasons, (1) we can then tell if they are true to the *claims* of the *originator*; (2) whether they are *old* varieties bearing *new names*, and (3) if they are of any value away from the originator, and planted in a different locality and a soil different from that the plants came from. Most all of the new varieties are tested 'here' at no little care and trouble and also at considerable expense.

Only a few of the *old* varieties remain. Since the introduction of the Jessie and Bubach, these head the list of those fruited here ; then Gold, Logan, Itasca, Belmont. Of the old varieties I still retain Summit, Crawford, and "Ontario." This latter variety is claimed by a writer in *Orchard and Garden* in the July No. to be the "Sharpless." With all due respect to the writer of said opinion it is a different plant in leaf and stem, rarely misshappen, rarely a *whitetip* ; being more solid, and a plant more prolific in fruit than Sharpless.

A number of seedlings fruited here this season, and some of them twice, are worthy of mention. Mr. Loudon's Nos. 15, 22, 23, 34 ; Mr. Townsend's Nos. 3, 9, 10. I have been induced from the extravagant reports made about the following to test them here and compare them with the other seedlings growing alongside of them :—Haverland, Gandy, Warfield, Bomba, Carmichael, Mammoth, Monmouth and Hampden.

It is often a wonder to me how some who are in the practice of introducing new varieties and of lauding them with such an amount of praise, that when

another novelty appears the good points of the former are forgotten, and held in contempt as compared with the value of the one now offered. I am led to these remarks from a notice in *Orchard and Garden*, regarding Jewel Summit, and Crimson-Cluster. This notice is sent for the benefit of those of little or no experience.

"Consider the plants how they fruit."

THE SPARROWS' DEATH WARRANT.

A BIG CONVENTION IN CENTRAL PARK IN A BELLICOSE MODE.

THERE was a convention yesterday in the Central Park. Owing to the confusion on the Mall the convention was held under the cedars on the Fifth avenue side, near Sixty-eighth street.

All the members were in high feather. The subject that had drawn them together was the bill now in the hands of the governor making it a misdemeanor to feed a sparrow. The chairman was a lively, fat little fellow, who came to the meeting covered with dust. He had had a little difficulty on the road with a friend who had claimed "first call," on a bluebottle fly. His name was Jack—plain Jack Sparrow.

In calling the meeting to order the presiding officer declared the new law which makes it a misdemeanor for any person to feed or shelter sparrows was an outrage. It was a bill that was aimed at every bill owned by every member of the convention. This remark made a twitter in the audience, and the chairman lifted one leg up under him, cocked his head to one side and looked very knowing.

"I live in one of the city parks," said one of the speakers, "and never did any one an injury. My family for many generations have been fed and taken care of by the visitors of the park. We never had to soil our claws by scratching for our own living, and even when we saw the worms and insects on the trees, we kept away from the horrid creatures, although they sometimes annoyed us dreadfully."

The church sparrow followed. His constituents had sent him to the convention to have a grievous wrong redressed. "A great beast of a sexton has been tearing down the vines that cover the front of our church and destroyed thus the shelter where hundreds of our homes have been made for many generations. The minister of the church is as great a brute as the sexton, for I heard him say only last Sunday, 'I can't hear myself preach for those sparrows. They disturb the peace of the whole congregation. The trustees talk of moving up town to avoid the noise of this neighbourhood, when the only noise to be heard is that of the birds. Pull down every nest and drive them off or they will drive us away.'"

A house sparrow, who had built his home over the window of an editor's room came next. "My grievance is one that is heart-rending," said he. "My family has the cosiest place imaginable under the brown stone carvings of a window. But there is a dreadful creature who comes home just before daylight and lights the gas in the room where he opens the windows and smokes until my family are nearly smothered. Then, when we get up about sunrise and talk to our neighbours across the street he uses the most horrible language and accuses us poor innocent birds of disturbing his sleep. Why doesn't he take his sleep at night and write his editorials in the daytime? I believe he is responsible for the new law, if anyone is, for he

has been writing about our being accountable for the loss of so many shade trees by driving off the insectivorous birds."

A member from New Jersey took the floor. "The State that I have the misfortune to represent," said he, "has long been an enemy to our race. They shoot us over there and then sell us in Washington Market for reed birds. The farmers are our enemies. Sometimes we find a young girl or a child who will try to feed and protect us; but because we prefer the food put out for the chickens and that which we find in the grain fields, to the bugs and worms they want us to eat, they kill us without mercy. Their law is that a sparrow can be killed every day in the year."

Just at this point Cock Robin spoke up. "What were you brought here for, if it wasn't to eat up the measuring worms that are destroying all the shade trees?"

This stirred up the belligerent sparrows, and the City Hall Park bird called out, "Don't give us any of your sass or we will lick you as we have every bird that has been in our way." "Yes," said a cat bird, "You have driven us away from our woods and orchards, where we were a blessing to the farmer, protecting his fruit from insects that are now killing the trees all over the land." The oriole, grosbeak, cherry bird, woodpeckers and flycatchers joined in the chorus against the sparrows. "Between you sparrows and the women's bonnets we have been almost exterminated," said a Baltimore oriole, as he fluttered his beautiful orange and black plumage. "So it is with us," chimed in the bluebird. "You have driven us from the homes we made in the hollow trees and old fences, and we, who were the first to welcome the farmer in the spring, have been scarcely able to fly from tree to tree for the bugs and worms that we feed upon. You are the enemies of man, not his friends. You are not pretty to look at, and you have not even a voice for singing, you screechy, quarrelsome things."

This was too much for the sparrows, and the convention broke up in a row. As usual, the sparrows got the best of it.—*N. Y. Herald.*

FLOWERS

THE CULTIVATION OF THE PANSY.

By H. Simmers, Toronto.

VIOLA Tricolor, the pansy, violet or heart's ease is very abundant in fields, meadows, woods, etc., in Great Britain and in most parts of Europe; it is also found in North America, although probably introduced there from the Old World. It is a very variable plant, its flowers differing much in size and colour.

In some of its commonest forms it is a mere despised weed, with small flowers. Other wild forms have much larger flowers, and to it are referred the large and beautiful garden pansies, the varieties of which are innumerable.

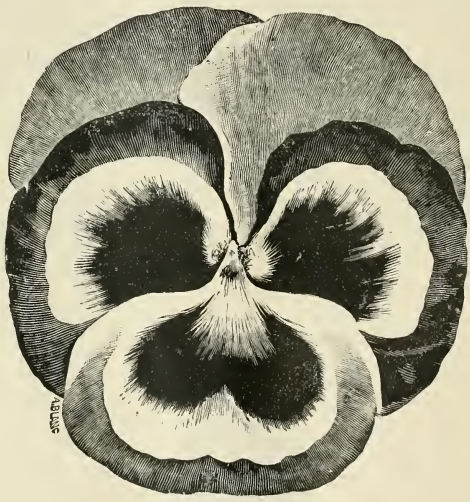


Fig. 63.—Cassier Pansy.

The pansy, French pensé, probably from the drooping attitude of the flower suggestive of thoughtfulness, is one of the finest of florists' flowers, and no flower has been more improved by cultivation.

The finest garden pansies are not preserved or propagated without great difficulty, and require most careful cultivation, without which they quickly relapse to their wild forms, for which reason they are usually grown from seed.

Florists demand that a pansy shall have a round, flat and very smooth edge, the petals thick and velvety, the three lower petals alike in their grouud colour, the lines or pencillings in the centre bright and distinct, the two upper petals (which always differ in color from the others) perfectly uniform, the flower measuring one-and-a-half to two inches across. The largest flowers generally are liked for open air culture, which, however, reduce in size much more quickly than the smaller varieties. In view of having gone into the general history of the pansy, we mention the different classes:—Cassier's five blotched pansy; Trimardeau, extra large flowering pansy, and common German mixed pansy. Other classes could be mentioned, but these three are best for general cultivation. Cassier's, five-blotched pansy is the handsomest and most perfect large flowering variety in

cultivation ; it does not produce such a large, flabby flower, but the markings are very distinct, and they retain their size until late in the season.

Fig. 64. Trimardeau Pansy.

On the contrary, the Trimardeau pansy, for those that admire a very large flower, is just the thing ; but the flower does not retain its size as long as the previous class, therefore, to the general taste it is not as acceptable, dwindling down by the end of the season to almost smaller flowers than the German mixed.

Fig. 65.—Mixed German Pansy.

The German mixed are exceedingly pretty, and for general purposes as good as the larger kinds, retaining their size until the end of the season. In the next issue of the Horticulturist I will speak of the mode of cultivation.

Propagating Roses by Cuttings.

The florists who make a specialty of raising young roses for the market generally, shortly after this time of year, begin in earnest the Summer propagation. The general method adopted now, is to have a sort of out-of-doors frame-work covered with muslin to keep off the burning sun's rays—and high enough, about the same as an ordinary span roof greenhouse. Beneath this are common hot-beds, a row on each side with a walk wide enough for passage between. In the Summer about a foot of good manure is enough to form the bottom heat. Cuttings are inserted, rarely more than a single eye cutting, into sand, heavily watered to settle the sand, and the whole is done.

It is an almost sure method of propagation, particularly if there is good half-ripe wood. A similar place would be good to strike almost anything, hence those who have not got much in the way of a propagation house, can in the Summer erect one as good as the best for a very small outlay of money. The main point, in propagation by cuttings, especially among soft-wooded plants, or soft wood as a material, is to keep the cutting in a close, moist atmosphere until such times that nature can put forth the effort of a set of new roots, to sustain the evaporation from the foliage. A dry atmosphere or a wilting down of the cutting is generally fatal, while any plant that easily keeps from wilting naturally, or is placed artificially favorable to prevent evaporation, is what is sought after by the expert propagator.

The wet sand theory, which consists of taking any flat vessel, like a saucer, and filling in an inch of sandy soil, and water an inch above that, will, if placed in the sun even, and cuttings placed in it, be found no mean appliance for rooting a few plants, and is explainable on the theory that the moist atmosphere immediately surrounding the cutting prevents the wilting spoken of. —*Prairie Farmer.*

FORESTRY

NUT BEARING TREES.

By Forester.

IN LOOKING over all kinds of trees, or seedlings if in a condition to be handled, the nuts would be sure to be most noticed. Apart from their size there is a certain firmness about them, and in the small tree, such as we would have for plantations, a sturdy health making them special favorites with me, and, I think, with other planters.

Among seeds it would seem impossible that the little wafer of an elm seed would produce as large and strong a tree as the rough hard walnut, and the seed of the eucalyptus which makes such great and rapid growth in warmer latitudes is only a fine powder. Many trees have a seed like a bean or legume which is easy to plant and to rear; but from a collection of seeds I think both novice and planter would select a nut as certain and reliable and would say to themselves "I would like to see what kind of a tree this would produce."

The nut plantation is not raised without some difficulties, as in all seedlings there are variations just when least expected by the inexperienced. After planting the nuts, before they dry out in the fall, in good clean land, we go about the following spring looking for the little trees. I found it surprising how many weeds got up earlier than the nuts. In May probably not one will sprout. In June we are suddenly surprised, a walnut standing up six inches in a single night and a little later the hickories and acorns are starting regularly.

The butternut is still slower and on first July none are yet found—soon after an odd one will appear. The chestnut is more satisfactory, for it sprouts vigorously the first thing in the spring, and has a good show of leaf before the weeds start the race. Many acorns and all of these nuts are to be found sprouting still later in the season, and a few will lie over one or two more winters to gather up sufficient moisture before looking for sunshine—seeds of ash, locust, and pines sometimes do the same and we do not like to attack the weeds too vigorously for fear of cutting up the precious trees.

In the little trees of the first year the nuts so generally send down a strong tap root often longer than the stem that when fit for transplanting there is a most satisfactory appearance of vigor, and the loss of the tap root will not permanently injure the tree, for in practice I find no such results; as after cutting off the tip if broken, the large fleshy root of a walnut has nourishment enough in itself to start it into active growth in any soil. There is only one case I ever heard of in which the tap root is essential to the success of the tree. That is in oak planting on the hills of California where it seems the grandest success has been obtained by planting acorns of the English oak in the place where they are to remain, and the tap root finds its way to moisture in a position where no other tree can live. In the nursery, if the long root is cut by a tree digger or by a spade a year before the tree is to be moved a full growth of side roots will be induced and the tree may be transplanted at any time. These large rooted seedlings are not too

small, and, carrying such a store of excellent food grow earlier and seem easier to hurry forward in all soils.

Among larger trees in forest or park is there not a greater dignity attached to nut bearing trees than others. The oak of old England is honored above all; and in our own country is there to be found a grander tree than the walnut or chesnut?

I never weary admiring the foliage of the walnut and butternut—so firm, as an American writer says, so tropical in appearance—now found here in only isolated specimens. How much more grand a whole grove of such would look?

In groves of second growth oak and hickory, the pliable-looking stems, often forty or fifty feet high, while only six inches in diameter, show a different kind of strength, just as valuable and attractive. Lighter woods, such as ash larch and cherry, furnish a commodity for market at a earlier age. When looking at value without considering the age the nut tree will take the first place all over America—the West nominally walnut—New England the chesnut and further South the pecan nut and hickory.

Are the trees slow growing? I hear so many say they do not plant these trees because they fear life is too short to insure the planter enjoying the shade or the profit of his planting—this only suggests to me promptness in beginning and a vain regret that I have allowed even a few years to go by before a love of trees for their own sakes made me willing to plant, let who will reap the product—my pleasure in planting is certain and there may be disappointments many times before the harvest.

To the Owners of Woodlands.

The Pennsylvania Forestry Association, in one of its recent circulars, publishes the following clear and forcible recommendations, which are applicable to every owner of a forest or of a piece of woodland. You will do a very great service to the agricultural interests of the Province if you reproduce them for the benefit of your numerous readers.

Toronto. A. K.

The association wants every farmer, every owner of a woodland to know:—

"That his wood-lot contains a valuable crop, which it will pay him, not only to cut down and slaughter, but to manage and utilize judiciously;

"That it is possible to utilize the old trees in such a manner that a new, valuable crop is produced instead of the inferior crop, which now so often takes the place of the virgin forest after indiscriminate cutting;

"That as an intelligent manager and husbandman, he would do better to see to a natural reproduction of his wood-lot, to cut with regard to the spontaneous young growth, rather than to clear indiscriminately;

"That the time has come when forest destruction must give way to forest management; for timber is becoming more valuable every year, as it grows scarcer in the country at large;

"That in the woodlands in proper proportion lie, to a large extent, the conditions of a favorable climate, and successful agriculture;

"That upon forest growth depend healthfulness and equableness of climate;

"That the forest breaks the force and tempers the fury of the northern and cools and moistens the breath of the southern wind;

"That by its own cooler and moister atmosphere in summer and warmer atmosphere in winter, it tends to equalize temperature and humidity over the intervening fields;

"That while the open treeless, heated prairie prevents the fall of rain, allowing moisture-laden clouds to pass over it undrained, we must thank our forest-clad hills and mountains for our more frequent, more gentle, more useful showers; and, above all,

"That the forest cover of the mountains preserves the even water flow in our springs, brooks and rivers, while

its destruction, or even deterioration, increases the danger of floods, washes off the fertile soil, and then brings down unfertile soil into fertile valleys, lowers the water level, and, in general, throws out of balance the favorable conditions for agriculture:

"That while we advocate the cutting and using of the wood crop as we need it, we must not any longer, as we have done, squander and waste it; we must not clear where clearing produces danger to the surrounding country.—*Globe.*

Hampton Court Gardens.

Some fifteen miles from London on the banks of the Thames is situated one of England's historic palaces, viz., Hampton Court. It is well known to all that this was the residence of Cardinal Wolsey during the reign of Henry the VIII. It is now held by the crown and open to the public at all times. The palace itself is a fine type of the architecture of Henry the VIII's time and contains some fine pictures in the state apartments, as well as numerous other articles of national and historic interest.

Hampton Court is also celebrated for its fine gardens, splendid park and grand old trees. Nowhere near London can early landscaping be seen to better advantage than at Hampton Court. The palace stands in its own grounds, or palace gardens, but connected with, or adjoining it, is Bushey Park. The palace gardens are on the east and south sides of the palace. Those on the east being laid out with shrubs and trees and containing the well known "Maze." The gardens on the south side or in front of the palace are laid out in ornamental walks and flower beds and the carpet or ribbon gardening is here done to perfection. The dark red geranium Jacobi is here used with good effect.

Most of the flower beds are of the same shape—about twenty feet long and ten feet wide—but no two are arranged alike Some will be made to resemble a turkey carpet, while others are laid out in solid masses.

Among the features of Hampton Court are the grand old chestnut trees. These were planted under the direction of Cardinal Wolsey and are laid out in avenues running south, east and west from the main entrance of the palace. We have never seen finer trees than these and those in Bushey Park. In the latter they are truly grand. It will give you some idea of the beauty of these trees when I tell you that the main avenue or drive from the entrance of Bushey Park to Hampton Court Palace is over a mile long and has five rows of trees on each side of it; each of these trees is perfection and a study in itself. At this season the chestnut trees are all in full bloom and they are certainly a sight to see and remember. [T.—*American Florist.*]

London, *June 1.*

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

The Annual Meeting.

It has been decided by the Board of Directors to unite the Annual and the Winter Meeting of our Association in one, and make one grand meeting of three days duration. Instead therefore of having a meeting in September, at the time when fruit growers are least able to attend, the next meeting will take place in the winter, the dates to be announced later.

It has further been decided to hold this meeting in the city of Hamilton. This announcement will be welcome to a large number, for no place could possibly be more conveniently situated to the majority of our fruit growers. Besides it is the native city of our Association, for here in the year 1859 the first meeting was held with Judge Campbell as president.

Notes and Comments.

Destruction of the Elms.—The *Scientific American* sounds a note of warning concerning the danger to which one of our most elegant of park and street trees is likely to become subject. In the vicinity of New York and in the Eastern States, the imported elm leaf beetle is becoming very numerous, and the larvæ is destroying the foliage of both European and American elms, especially however preferring the former. If allowed to go on unchecked this enemy will probably destroy these favorite ornamental trees. It seems that kerosene emulsions, carbolic acid solutions, etc., have been tried without satisfaction owing to the difficulty of applying them to large trees.

Destruction of the Purple Fringe. Bulletin No. 1 Hatch Experiment Station, Mass., reports a beetle which is destroying this valuable ornamental shrub. It is the jumping Sumach beetle, (Blapharida rhois), an insect about $\frac{1}{4}$ of an inch long, with head and thorax of a dull yellow color, which leaps when disturbed somewhat like the habit of the small flea beetles. The eggs deposited in masses of thirty or forty about the 15th of May, hatch out in about two weeks, and proceed to their work of defoliation. The remedy found most successful was spraying with Paris green and water.

GIRDLING THE GRAPE VINE.—The same bulletin gives the results of experiments conducted by Prof. Maynard, in girdling the vines to hasten ripening of the fruit. This practice has been so generally condemned, as giving increase of size at the expense of quality, that we read with interest the results of any careful experiments. The object with which it has been employed in the past has been chiefly to prepare large specimens for exhibition, and many a prize has been in this way won at our fairs. But these experiments have been conducted chiefly for the purpose of hastening the crop for market. The method at first employed was the common one of removing a ring of bark $\frac{1}{4}$ of an inch wide early in July from the canes to be removed next pruning, thus avoiding any injury to the vine itself: latterly however a less expensive method has been employed, namely by twisting a No. 20 wire very firmly about the canes the last of June above the point where the cane is to be cut away. The result has been the conclusion that the increased size and early maturity *was not at the expense of the quality*, that the vine was not injured by the process and that the increased price obtained for the early fruit more than paid the expense of the work.

THE BRIGHTON GRAPE.—W. M. P. of New York State, says in the *Rural New Yorker* that his own experience, and that of his neighbours with this grape is that it is unprofitable. He has 300 vines, which bloom well; grow well; but do not yield on an average more than two pounds per vine. The flavor pleases, but does not command a sufficient advance in market price to make up for lack in quantity.

CABBAGES IN JULY.—Mr. James Dunlop, of St. Catharines, called at our office on the 20th of July. He was on his way to Hamilton with an enormous load of cabbage heads, in the growing of which he is very successful. He has about 50,000 heads ready for the market and has been shipping in every direction for a month past. His plan is to sow the seed in September, winter them under glass, and plant out in April as soon as the ground is ready. The variety which he grows most extensively is the Early Jersey Wakefield, of which he can raise about 10,000 per acre.

CURCULIO AND THE CHERRIES.—Mr. C. M. Weed, Entomologist, Ohio Experiment Station, reports in Bulletin No. 4, the result of careful experiments. Spraying cherry trees with London purple and with lime to prevent injury by the plum curculio. His conclusions are as follows:—

(1.) That three-fourths of the cherries liable to injury by the plum curculio can be saved by two or three application of London purple in a water spray (in the proportion one ounce to five gallons of water) made soon after the blossoms fall.

(2.) That if an interval of a month occurs between the last application and the ripening of the fruit no danger to health need be apprehended from its use. As a precautionary measure, however, he would advise in all cases, and especially when there are few rains during this interval that the fruit be thoroughly washed before it is used.

(3.) That lime is not so certain in its preventive effects as London purple, saving in these experiments only forty per cent. of the fruit liable to injury.

THE CONN GOOSEBERRY sent us for trial by Mr. P. E. Bucke, Ottawa, has borne its first fruit. In size it is large, bigger than Smith's Improved, or the Industry; in color it is a very dark green, and its quality is good. *The Ottawa* is also a large gooseberry, much lighter green in color, and has a thinner skin than the Conn. Neither of these so far has shown any indications of mildew.

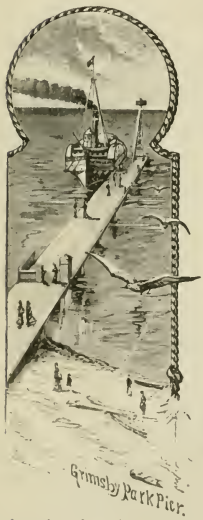
THE MARLBORO RASPBERRY is this year a great success with us. It is heavily laden with the most beautiful fruit; so large and firm that it would

carry well and bring the top price in the market. The color is also greatly in its favor, being a delicate light shade of red somewhat resembling the Brandywine. Its period of ripening is about ten days before the Cuthbert, or about the same time as the Turner. In quality for the table it is inferior to the Turner, or the Clarke

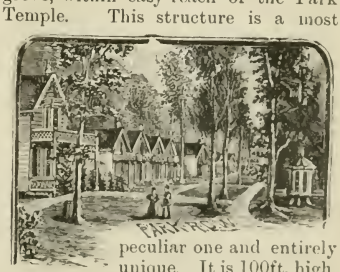
The Golden Queen is certainly well named for color. Compared with the Caroline it is a far brighter yellow, and hence much more attractive. Then its firmness is another important feature. Such varieties as the Caroline, Herstine, Clarke, etc., which settle so much in the baskets after picking are unsatisfactory for shipping.

The Parry Strawberry has commended itself as a table berry above some two dozen of the more prominent varieties being tested at Maplehurst. The quality is excellent, little, if at all inferior to Triomphe, and its bright glossy scarlet berry is very large and very attractive.

GRIMSBY SCENERY.



VISITORS to Grimsby all unite in their admiration of its natural attractions. Ontario the beautiful lake, so called by the aborigines is here seen from the summit of Niagara Escarpment to the best advantage. Standing on the much frequented elevation familiarly known as the "Point," 300 feet above the water level, a most beautiful strip of orchard land is spread out before one, with the lake in the background, and it stretches out with increasing width until terminated by the Niagara river, and old Niagara town. Often from this "Point" Brock's Monument, as well as some prominent buildings in the city of Toronto, both about 36 miles distant, are visible to the naked eye. Yonder, about two miles east of Grimsby village and along the bank of the lake, almost concealed in a forest of native elm, bass-wood, chestnut, oak and other trees, is the now famous Grimsby Park, in daily connection with Toronto by means of the steamer Greyhound. Avenues, lined with inexpensive but very tasteful summer cottages, are laid out in every direction throughout the grove, within easy reach of the Park Temple. This structure is a most



peculiar one and entirely unique. It is 100ft. high, and will cover about 7000 people. It is constructed somewhat in the shape of an old fashioned bee-hive, an immense cone, without frame-work; and built wholly of ⅞in. lumber, of which about one hundred and eighty thousand feet were required. Walking along the

mountain brow for a mile-and-a-half westward, we reach another much frequented pleasure resort, known as "The Fairview," from which Burlington Heights, Burlington Bay, and Burlington Beach are all plainly visible. Here we are in the very heart of the fruit section of this district. Lying just below us is Maplehurst fruit farm and the home of the secretary; and on one side, adjoining, is the fruit farm of Mr. A. H. Pettit, president of Lincoln Co. Farmers' Institute, and on the other that of Mr. E. J. Woolverton, president of the Niagara District Fruit Growers' Co. Orchards and vineyards in every direction are gradually covering the farms, adding much to the beauty of the landscape.

By the side of the Point is a deep picturesque ravine, running back about a mile to Beamer's Falls, and on the opposite side another interesting eminence called "The Split Rock." The grove on the Point itself is some acres in extent, and affords a most delightful ramble. The popularity of the Park at the lake suggests equal possibilities for this charming spot. Why is it that so many natural parks in our country are left so long unimproved, and unvalued, until the shortsighted woodsman has entered with his axe, and spoiled their beauty.

QUESTION DRAWER.

Grafting and Budding.

72. Is it safe to graft in July? I do not remember seeing any directions for budding in the *C. H.* Could you publish some.—G. H. F., *Ottawa*.

GRAFTING should be done in spring time with scions having undeveloped buds.

The process of budding was decribed in Vol. X, p. 189. It is easier than grafting, and answers precisely the same purpose: for stone fruits—indeed such as peaches, plums, apricots, etc.—it is far better than grafting, for the latter method is almost sure to fail unless in very skilful hands.

Budding may be done from about the 1st of July to the middle of September taking fruit trees in order as follows: plums, cherries, pears, apples, quinces and peaches; the object being to perform the operation at the time when the bark parts freely from the wood, and when the bud to be inserted is somewhat matured.

The whole process is a very simple one, and there is no reason why any one of our readers should not have the pleasure and the advantage of practising it. For the benefit of our new subscribers we reproduce the illustrations showing the method of operation, which will save many words. The stock to be budded should be of the present year's growth—with the peach this is especially important—and therefore seedlings which are too small for budding this August, or on which the bud fails

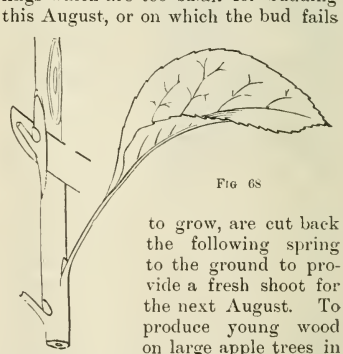


FIG 68

to grow, are cut back the following spring to the ground to provide a fresh shoot for the next August. To produce young wood on large apple trees in such places as are required for budding limbs may be cut off in spring time, and such shoots allowed to grow as are most desirable for the purpose. Fig. 68 represents a portion of a stick of buds, showing how the leaves are removed leaving a small portion of the petiole

as a handle, and also the manner of cutting out a bud ready for insertion. The English gardeners remove the small bit of wood from the inside, but we do not find any advantage in this whatever, and the work is more speedy without. The kind of blade a budding knife should have is also shown. Fig. 69 *a*, shows how to make the T cut through the bark which is carefully opened and the bud pressed into place as at *b*. The whole is tightly bound as at *c*, with some soft yarn, or strips of the inner bark of the bass wood which is preferred by nurserymen to any other material. The bandage should be loosened within a week or two, or the growth will cause it to cut into the wood. The stock above the bud is to be removed the following spring.

a *b* *c*

Fig 69

Orange Rust of the Raspberry.

73. The enclosed leaves, show how my black raspberry bushes are affected. They were slightly affected last year, but much worse this year. Will you give the name, the cause and the cure if any? It does not affect the red raspberries though adjacent or even in contact. I must find a remedy or soon go without black berries.—J. B. AYLESWORTH, SEN., *Collingwood.*

I enclose a leaf or so of Mammoth Cluster, can you kindly inform what is the matter and what is the best remedy, last year I had some like it, I cut down the canes and burnt them.—C. GREENWAY, *Strathroy.*

Reply by Prof Panton, Ontario Agricultural College, Guelph

I SEND you an outline drawing of the fungus affecting the specimens sent; it was drawn by one of my students Mr. J. A. Craig. It is likely a representative of the genus *Puccinea*, the same genus as rust of wheat and barberry, but not the same species. The spores are very large and distinct, and readily seen with a power of 200 diameters. Fig 70.

Reply by Prof James Fletcher, Experimental Farm, Ottawa.

THE fungus sent by you as found on your raspberries is I believe known as

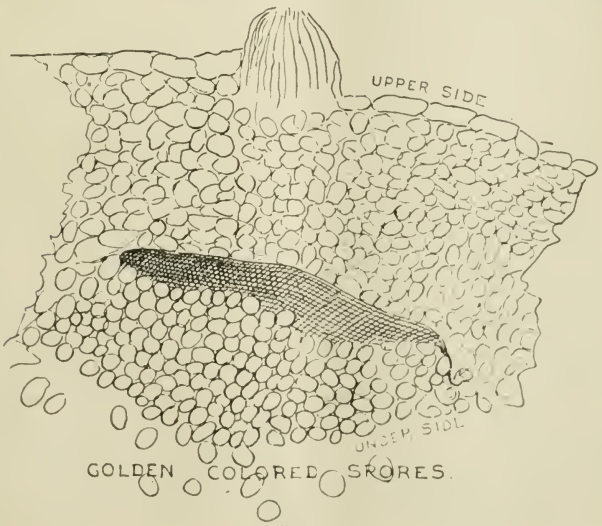


Fig. 70

the "Orange Rust of the Blackberry." It is I regret to say common on both blackberries and raspberries. The remedy I believe is prompt removal and burning of the affected plants. My books are all packed up still but, from memory, I think it is called *Cæoma nitens.* There was an article on it in the *Prairie Farmer* of either 1885 or 1886; I think the former.

Oleanders and Auriculas.

74. What is the proper soil and cultivation of Oleanders, also that for Auriculas? I have been very successful in raising the former from cuttings, but I think I could do better with proper advice, etc.—RICHARD HENRY LIGHT, *Kingston.*

Reply by D. W. Beadle, St. Catharines, Ont.

OLEANDER.—Well rotted sods enriched with old manure and leaf mold is the best soil in which to grow the Oleander. It should be kept in the winter at a temperature of from 35° by night to 45° by day, and in summer may be placed in the open ground in any part of the Province where peaches can be raised successfully. It is best propagated by cuttings of nearly ripe wood, immersed in phials of water, which are kept in a warm place, if possible on bottom heat. These cuttings will soon emit roots, and as soon as the water is nearly filled with them may be taken out of the phials and potted singly in small pots These plants are subject to attacks of an insect known as "Scale," and sometimes are infested by the "Mealybug." These can be kept in subjection only by careful watchfulness on the part of the cultivator, removing them as soon as they make their appearanee. A little spirits of turpentine applied with care, is an effectual remedy with the "scale." I have usually been able to dislodge the "mealybugs" by syringing them with a mixture of whale-oil-soap and tobacco-water, to which has been added a little spirits of turpentine.

AURICULAS.—In treating of the cultivation of these plants, I may as well state at the outset that our climate is by no means as favorable for the cultivation of these flowers as that of Great Britain. Our summers are too hot and our winters too cold to admit of their being treated in the same manner as cultivators in England treat them. Your subscriber will probably succeed better by obtaining seed from some first-class reliable seedsman which he will sow in boxes in the greenhouse in the month of March or April in light soil; as soon as the plants show some four or five leaves, transplant them into pots which have been filled with soil made largely of rotten sods, enriched with well rotted manure, not less than two years old, to which has been added about an eighth of coarse sand. These should be kept in a mild temperature where they will get a little sun, until all danger of frost is past, then they may be transplanted into the open border on the north side of the house or high fence, where they will be protected from the direct rays of the sun. The border should be made quite rich with well decayed compost, and thoroughly underdrained, so that no stagnant water can remain about the roots.

When these plants bloom he can mark those that he wishes to preserve, if he is desirous of raising only first-class blooms; but if not particular in this respect he may build a frame about them all, and as the cold weather comes on, nearly cover them with dry leaves, and place a sash over them, giving them air on mild days, and keeping them from being soaked with the rains; and as the weather grows colder, keeping them well covered until the mild weather appears in the Spring. Should a spell of warm weather occur during the winter it may be necessary to open the sash sufficiently to give them a little air, taking care, however, that the leaves with which they have been covered, do not become soaked with rains or melting snows. Great care will be needed as the spring comes on to give them air in the mild weather and protection at night until danger from frost is past, when the sash can be removed and the covering

of leaves taken away; then stir the soil gently, and if necessary enrich by a top dressing of compost. If he wishes to propagate from any of the plants which he has raised because of their superior flowers, it can be done by carefully dividing the roots after blooming season is over and the seed has ripened.

Cutting off Tops of Strawberry Plants.

75. Does it work well to cut the tops of strawberry plants after they are done fruiting to keep them in bounds?—READER OF THE HORTICULTURIST, *Penetanguishene.*

Reply by John Little, Granton, Ont.

REMEMBERING the leaves are the life of the plant, it will retard the growth of the plant; but with frequent watering and keeping the earth loose about the plants, and an occasional dressing of *wood* ashes, not too much at a time, he will be surprised at the result.

In the west, where they are troubled with *Blight, sun scald* and Crown-borer, they mow off the tops of the plants, and when dry burn them off, and cultivate without any detriment to the plants.

Movable Fence.

76. Would you please describe the Movable Fence referred to in the report for 1886, p. 11. —H. E., *Napanee.*

IT was Mr. Beadle who made the reference and he says he had in mind the common hurdle fence, well known to all old-countrymen, and made of various patterns in this country; they are easily taken apart, and moved as

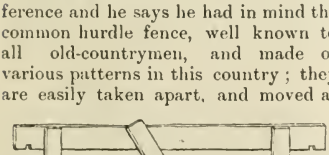


FIG. 71.

circumstances require. The *Rural New Yorker* gives a very good design for a movable fence in No. for June 16, which we copy. Fig. 72 represents the post which is made of an inch board 5 feet long and 8 inches wide;

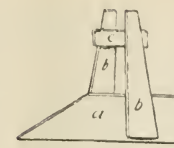


FIG. 72.

b. b. represent upright pieces made of 2 inch plank, of desired height, and *c.* is about 4 inches wide, and supports the top board *d.* of the pannel. The boards of the pannels may be 12 or 16 feet long, and the strips *e. e.* are 4 inches wide the middle one included to prevent endward movement.

Apple Root Grafts.

77. Will you be kind enough to let me know in your next number how Apple Grafts set this spring should be treated for three years. I have set them in rows two-and-a-half feet apart and eighteen inches in row. How late in the season should they be cultivated and how pruned?

YOU have set your rows too close, and you will find great difficulty in getting through with a horse and cultivator when the trees are three years of age; three or three-and-a half feet would be better. Ten or twelve inches apart in the rows is far enough. Give good cultivation as you would corn, up to the month of August, when you should cease it to allow of early ripening of the young wood. Prune by encouraging one upright stock, but do not rub off spurs or leaves too closely up the trunk, or the tree will be too slender.

Pruning Small Fruits.

78. Should the young wood of this spring's growth of the currants, gooseberries and raspberries, which is most rampant, be cut back? If so, when, and how much? WM. MCM,—*Niagara.*

THE young wood of raspberry and blackberry canes should be cut back when it reaches the desired height in order to produce stocky growth, and to develop side branches. Two-and-a-half or three feet is a good height.

It is usual to prune currant and gooseberry bushes in fall or early spring, thinning out the old wood and all superfluous branches, and in case of the former to cut back the young wood one-half or two-thirds its new growth

OUR FRUIT MARKETS.

Canadian Fruit Markets.

The writer has had consignments of fruit wholesaled in Toronto, all through the months of June and July; the sales averaging higher than for some years past. Some of us were very much discouraged at the prospects when import duties on fruits were removed; but although early fruits from the South have come forward in great abundance, and the New York State growers have come into direct competition with Western Ontario growers, we are holding our own beyond our best expectations. No doubt the extreme drouth in many portions has cut off the usual supply in many parts, which may in part serve to explain the exceptionally good market thus far for small fruits.

Looking up our shipping book we find that in 1885 Canadian *Strawberries* opened in Toronto on the 16th of June at 20c. and declined gradually to 5c. on the 2nd of July; in 1886, they opened on the 8th of June at 17c. and declined to 5c. on the 22nd of the same month; in 1887, they began at 10c. on the 16th of June and declined to 5c. by the 24th of June. This year we had them wholesaled on the 19th at 17c., the prices remaining very firm, and only for a few days were any sold as low as 7c. In Montreal, Ottawa and Kingston the prices ruled lower than in Toronto, which is unusual.

Cherries have been a short crop in the Heart and Biggareau varieties, which have consequently sold well; in Toronto the 12qt. basketful has wholesaled at from $1.00 to $1.50; in Montreal at from $1.50 to $2.00; and the Duke and Morello class has sold nearly as well, although more abundant. Indeed it appears that fruit growers might profitably engage more largely in the production of such pie cherries as the early Richmond, Late Kentish and Montmorency.

Currants have also done well this season, especially the Red Cherry which always takes the lead for price. This variety has averaged $1.00 per 12qt basket wholesale. The small varieties as Red Dutch, White Grape, Victoria, Versailles, etc., are much lower in price, averaging about 75c.; still they are more abundant bearers.

Small Gooseberries, as Houghton and Downing are a slow sale at from 50 to 60c. per basket, but the large varieties are wanted and are the only ones worthy of our attention in growing for profit. Such varieties as Whitesmith, Industry, well grown Smith's Improved, etc., being from $1.00 to $1.25. If we can succeed in destroying the mildew with "*Eau Celeste*" we yet may compare favorably with English gardeners in raising big gooseberries.

After so many seasons of low prices it is quite encouraging to have a year that opens up so favorably, as so far this fruit season of 1888 has done.—Editor.

Prospects for Apple Exportation.

Sir,—I came in due possession of your favor of the 28th of May, but I don't think there is much to interest our Canadian friends in the movements of our soft fruit here, but when the apple season commences give us a reminder and you shall have a proper report as to our markets here, and a cable as well when necessary. I am glad to hear you remark that the prospects of apples with you are so good, because our own are an *utter failure*. There seems therefore every probability of a large business with you in the coming season. You may make a very good thing out of "Kings" if sent when wanted. If we continue in correspondence regularly I shall keep you well posted. I am, Dear Sir, yours very truly. J. B. Thomas.

Convent Garden, London, Eng.,
3rd July, 1888.

Montreal.

New Apples.—Several cars of new apples have arrived from the South-western States, and have been disposed of in jobbing lots at $5 to $5.50 per bbl. A large trade is expected in American apples this year, and as the receipts increase lower prices may of course be looked for, until the early Canadian fruit arrives, when it will be seen whether the American product will be able to compete with the home growth. We notice that Canadian apples are likely to meet with competition from Australia during the coming season, 14,000 boxes of which were received in London, England, about two weeks ago on the P. & O. steamer *Oceana*. It was found however that a considerable portion of them was frozen whilst *en route* in the refrigerators, but this will of course be remedied in future. Former shipments it appears gave great satisfaction. Australian products are bound to become important factors in the English market, and in time will no doubt be formidable competitors with Canadian and American goods.—*Trade Bulletin.*
July 29th.

Shipping Canadian Fruit.

"Well," said Mr. A. McD, Allan, president of the Ontario Fruit Growers' Association, "what I said the other day has had a good effect anyhow. The steamship companies had tried to make one point in saying that in New York shipments they had to make transhipments. There were no more transhipments via New York than here. The goods went direct to the dock at New York. Notwithstanding what the railway and shipping people have said the facts are dead against them, as they had the actual experience of a number of different shippers who had put the thing to the test practically. On one occasion he had given notice of one particular shipment that it was to be a test case, but found that it made little or no difference. It was unsatisfactory compared with New York.

"There was some misunderstanding regarding what was called cold blast. As he understood it, it was atmospheric blast, and the

steamship men understood it as the fan system. He had been over some of the Beaver line steamers in which they were putting in the fall system and introducing the air through all the different decks. This had been done already in three of their vessels, and from what he had seen of it would be a perfect success. He believed it was the best thing he had seen yet, and that it would fully meet their requirements in the way of keeping up a sufficient circulation of cold air to preserve their fruits in good condition. They had also offered to give them through bills of lading from any point of shipment in Ontario to any point inland, or otherwise in Great Britain or on the continent, and were really doing all they could to meet their demands. They had also agreed to issue bills of lading upon their own account, and not on the shipper's account as heretofore. They had only been able to secure this advantage in sections where there was railway competition. when they had no competition to deal with one road absolutely refused to give them under any circumstances. It was a fact that fruit via New York by special trains was passed through much quicker than by the Canadian system of ordinary freight trains. The express companies had been spoken of. It was quite sufficient for him to point to one instance regarding the handling by express companies. The Dominion Government at the time of the Indian and Colonial exhibition paid the express companies high rates for the purpose of having fruits intended for that exhibition carried with extra care. The fruits were put up in neat packages easy to handle but notwithstanding all their precautions they found that in the handling the soft fruits were smashed almost to pieces. Out of two tons they could only get just sufficient to make a display on the table. In a good many varieties they could not even get this. The whole thing was a disaster as far as the express companies were concerned. They had suggested to the railway companies a remedy that would completely get rid of the damage in shunting. It was by introducing what they called in England "buffers" between the cars, which would obviate the damage inflicted by shunting. The freight train system would then be satisfactory.

He thought the other steamship companies would follow the example of the Beaver line, and in that case they would not ship via New York at all as they preferred to deal with their own Canadian lines.—*Montreal Gazette.*

OPEN LETTERS.

Grenville, P. Q.

THE Ostheim Cherry distributed by F. G. A. Ont., duly reached me, though in my absence. It was carefully planted, and is doing well. My Russian Cherries are bearing a few cherries this year. A good many of my Rus. Apples are also bearing a few fruit. Most of the sorts stand well and are vigorous growers. Some Duchess Apples were *root frozen* on sandy soil where the snow blows off. Promise of plenty fruit of all kinds this season.

With regards yours truly,

June 19th, 1888. ROBT. HAMILTON.

Retirement of Mr Garfield.

THANK you kindly for sending me your paper for the many years I have been Secretary, as an exchange for our volumes and bulletins. Failing health has compelled me to retire from active work and may I ask you to continue the exchange, changing the address to Edwy C. Reid, Allegan, Mich., my successor in office. I can assure you that Mr. Reid will be always ready to give you information, and fully reciprocate any courtesies you may extend to him.

Yours truly,

CHAS. W. GARFIELD, *Secretary.*

MICHIGAN HORTICULTURAL SOCIETY,
SECRETARY'S OFFICE.
GRAND RAPIDS, MICH., *June 19th, 1888.*

The Walnut.

The Editor HORTICULTURIST.

SIR,—After the question of Walnuts in this climate was spoken of, Mr. Gibb suggested a possible difficulty which should not be overlooked. He says that although the trees will grow and mature its fruit the wood may not be fully developed and may prove unfit for manufacturing purposes.

His well known and very exact observation of the natural history and growth of fruit bearing trees causes us to regard his opinion on this subject with respect. It is so well known that apple trees of all sorts are carried to their extreme climatic limit, and beyond it until they fail to produce fruit or wood, it will likely be found that the wood will not be sound, even at the limit where good fruit is produced. This can be easily observed, and of course applies to all trees. Walnut, catalpa and other trees are on trial in places where they are known to be hardy, and in view of the many new plantations proposed the success of these trees is worthy of all attention. T. M. GROVER.

NORWOOD, *16 July, 1888.*

Fruits in Western Ontario. Death of Mr. James Dougall.

SIR,—I send you another name for membership to your Society, that of a gentleman who has put out over thirty acres in grapes this spring[1]

I hope to be able to send you other names of those who have gone into this business in a considerable way.

The fringe of country along the Detroit River, North Essex, bids fair to be a wine country. South Essex, on Lake Erie shore and on Pelee Island have produced quantities of grapes, some wine on the shore and large quantities on the Island.

The wine trade in this Northern part of the country, principally by old France French people, has a ready market in the Province of Quebec. The product and its use is growing. There is plenty of demand for a pure article.

If your September meeting is not too far away, I hope to show Barry, Worden, Wilder, Concord, Lindley and Iona. And next year an additional lot.

Not that we expect to rival the experienced growers of the Niagara District. But the Detroit District has capabilities and we want to show them.

While I write, I think it proper to mention —that no mention has yet been made in your Monthly Journal (so far as I have been able to find)—of the death of Mr. James Dougall of Windsor, who died on April 5 last, aged 78 years. Mr Dougall did much for the advancement of horticulture, when there were very few promoters of the science. He was well known to nurserymen throughout the country.

In some of your older reports, I notice honorable mention made of his work in that connection. I remain, Dear Sir yours truly,

W. H. ASKIN.

WALKERVILLE, *July 12th, 1888.*

NOTE.—It would add very much to the interest of our meetings if a larger exhibit of fruits, flowers, ingenious devices for the benefit of fruit growers, samples of canned and evaporated fruits, etc., were made. True there are no prizes offered for competition, but what is done is surely of far more importance, viz.: the report of our committee upon each exhibit with their criticisms for the benefit of the public.

From Chatham.

DEAR SIR,—There will be a very poor crop of winter apples here this year ; a good many early apples ; grapes, good ; raspberries, pretty good ; strawberries (all done) were light, and completely demoralized as to season of ripening ; currants, worse than the average. Farm crops very good. We had nice rains at intervals. Our land stands a drought well. The pastures have kept extra good.

Yours very truly,

F. W. WILSON.

CHATHAM, ONT., *July 12th, 1888.*

REVIEW.

NEW YORK EXPERIMENT STATION. Sixth Annual Report.

The reports of the botanist in this station have been of special interest to us, because of the useful experiments tried with fungicides. The experiment tried with hyposulphite of soda for the apple scab has been noticed in these columns ; now we observe that sulphide of potassium has been successfully used in several experiments for destroying fungi. A solution of the strength of one-half ounce of the sulphide of potassium to a gallon of water was sprayed upon the Industry gooseberry, which variety mildews badly at Geneva. The operation was repeated several times in June especially after heavy rains. The result was the destruction of the fungus which had not passed beyond its early white stage. The same remedy is found beneficial in clearing strawberry leaves of the spotting due to the fungus, Ramularia Tulasnei, sometimes called "Sun burn"; and it is believed to be also a remedy for the pear and apple scab.

Fortunately for us in Canada, the dryness of the early part of both this and last season has been very effectual in clearing our apples of this latter fungus, by preventing the germination of the spores.

HOW TO GROW TOMATOES.—No. 2 of the Fruit Growers' Library, published by the *Horticultural Times*, 127 Strand, W. C., London, England.

BULLETIN No. 5.—Report on the experiments made in 1887 in the treatment of the Downy Mildew and the Black-Rot of the grape vine, with a chapter on the apparatus for applying these remedies. Prepared by F. Lamson Scribner, Dept. of Agriculture, Washington, U. S.

CALENDAR of Queens College and University, Kingston, Canada, for the year 1888-89.

BULLETIN No. 1.—Hatch Experiment Station of the Massachusetts Agricultural College, July, 1888. H. H. Goodell, director.

THE management of the Buffalo International Fair, which will be open September 4, have been particularly fortunate in procuring the able services of Mr. Vick, of Rochester, to take complete charge of the Horticultural Department. The name of Vick, of Rochester, suggests in itself at all times a vision of blooming plants and fragrant flowers.

PRINCESS LOUISE, or Wealthy

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 9.

SEPTEMBER waves his Golden-rod
Along the lanes and hollows,
And saunters round the sunny fields,
A-playing with the swallows.

The Corn has listened for his step;
The Maples blush to meet him,
The gay, coquetting Sumach dons
Her velvet cloak to meet him.

Come to the hearth, O merry prince!
With flaming knot and ember;
For all your tricks of frosty eyes,
We love your ways, September.

—*Ellen M. Hutchinson.*

THE PRINCESS LOUISE.

A HIGH sounding title for an apple surely! and complimentary or not to Her Royal Highness, according to the beauty and real worth of the apple which bears it. It is not, however, an unnatural one, for we have already among our apples a "King" and a "Queen." Why then not expect a "Princess"?

This apple is a true Canadian seedling, and the original tree is growing

where it first sprung up, on that part of Maplehurst Fruit Farm lying upon the side of the so-called "Mountain," at Grimsby. It was first shown at Hamilton before the winter meeting of our Association in the year 1879. On page 33 of the report for that year appears the first mention in the report of the fruit committee, A. H. Pettit chairman, as follows:—"A fine sample of seedling, past its season; a little above medium size, yellow, with a fine, bright blushed cheek, oblong, marked with a light raised streak descending from the calyx; said to be crisp and juicy, resembling the Snow apple in season, from which tree it is probably a seedling. The committee suggest, from its beautiful, clear appearance, that it be named "Princess Louise." In the report for 1881, page 93, the fruit committee, A. McD. Allan chairman, again describe it, adding, "Our impression now is that this Seedling is an improvement on the Snow, and should be brought into more general cultivation."

In volume 4, page 74, of THE CANADIAN HORTICULTURIST, appears a good description of this apple from the pen of Mr. D. W. Beadle, then editor of this Journal, from which we quote the following description:—

"In form, this apple is nearly conical, flattened somewhat at both ends. The stem is not very stout, and projects beyond the cavity, which is deep and regular. The calyx is closed, and set in a shallow, slightly wrinkled basin. The skin is smooth, free from all blemishes, and has a very bright, waxy lustre, as though it had been highly polished. The color is a clean, bright carmine, on a transparent, light yellow ground. The surface is moderately sprinkled with light grey dots. No description will convey any adequate idea of the extreme beauty of this fruit, which is so very striking that it would command attention in any market from its attractive appearance. But to this rare beauty of appearance it adds excellence of quality. The flesh is pure white, like that of the Snow apple, tender, juicy and nearly as melting, with a richer flavor and higher aroma: indeed, one of the most fragrant of apples. Mr. Woolverton informs us that the tree is about eight years old, is a chance seedling of the Snow apple, has borne for three years, the crop being heaviest in alternate years, and that it has established its character for uniform beauty and excellence of fruit. He considers it to possess all the good qualities of the Snow apple, besides being more beautiful and a better keeper. We fully coincide with him in the opinion that it is destined to take a leading place among our Canadian varieties, and are confident that this fruit will command attention in the English market whenever it may be produced in sufficient quantity."

On page 87 of the present volume, some further items in connection with the history of this apple, and also in the July No. of *The Horticultural Art Journal* for 1888, published at Rochester.

Miss Evvy Smith, daughter of our esteemed Vice-President, has painted a very good picture of this apple, and we now give our readers a copy. The color is not quite the shade of the original painting, and the abrupt transition

from bright carmine to light yellow, which is so characteristic, is not represented; but in other respects it is truthful, and does not at all exaggerate the beauty of a fully developed specimen.

THE APPLE HARVEST.

SEPTEMBER is a busy month with the fruit grower. The early part finds him in the midst of his Bartlett pear harvest, which must be completed quickly before they are over-ripe for shipping; and, later on, full of anxiety to exchange his golden Crawfords for golden dollars before their ephemeral glory fades. Closely following upon the summer fruits come fall apples and fall pears, and then the great harvest of winter apples. No time for pleasure excursions, nor even to attend to fairs, unless at a sacrifice of the most precious days of the whole year.

Generally speaking our winter apples are allowed to hang too long to be handled to the best advantage. At one time it was the rule to begin gathering them about the 9th of October, but the high winds of that month made such havoc with them that we soon changed that rule. The 20th of September is none too soon to begin with such kinds as have attained full size and color, and if by that time all the apples upon a tree have not reached maturity, it will pay to make two pickings, leaving the greener and smaller ones to grow and color up. Attention to the details of preparing fruit for market always returns a good profit and must not be grudged. Careful handling and careful sorting are of paramount importance. Many throw apples into the basket as if they were potatoes, or squeeze them with thumb and finger as if they were made of stone, and so leave marks which spoil their beauty. Round swing-handle, cloth-lined baskets, attached with a wire hook to the rounds of the ladders, are the best for apple picking.

Most orchardists empty their apples in piles upon the ground, but sorting, in that case, is back-breaking work, and every rain delays it. Some empty them in heaps upon the barn floor, but in a large orchard this means much labor in carting. Our custom has been to empty into barrels in the orchard, head up with out pressure, write the name of apple on the end, and store under cover; and then in packing empty them out on a packing-table for sorting. For young orchards and scattered varieties this is the best plan we know of, for the important work of packing can then be done in a clean, dry place without moving about with nails and mallets and press from one part of the orchard to another. A handy bushel crate is described in the *Farm and Home*, and a similar one is used by the Grimsby Evaporating and Canning Company. Fig. 736 represents this crate, which may be made 18 inches long, 15 wide and 11 deep. Four slats, 3 inches wide, are used for the bottom, the two outside ones coming flush with the outside bottom slats, to which they are nailed. Handles are cut in the ends, using a

gauge for marking, as shown at *a*. These are more convenient for handling than barrels, and, when filled level, can be stored in piles on the barn floor to any height and then emptied out upon the packing-table for sorting.

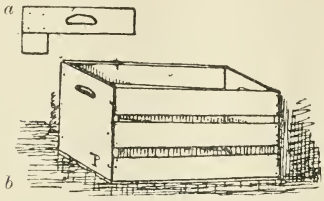


Fig. No. 73.

Mr. R. W. Starr, of Cornwallis, N.S, advises packing in the orchard as fast as the apples are picked. This plan is no doubt the most economical, and if the fruit is to be shipped and sold immediately, no doubt it is the best. And probably in Nova Scotia and our Northern sections the plan might succeed, but in Southern Ontario we often have some hot October weather, and we are glad of the opportunity at the last moment of overhauling our fruit, and removing many a decayed apple which was apparently sound when first picked from the tree. This is especially the case with such varieties as King and Cranberry Pippin. But with firm varieties such as Baldwin, Russet and Spy, perhaps the plan would work well and is worthy of a trial. The first requisite for this mode is a movable sorting-table. This is made light and strong of about the following dimensions, viz:—length 7 ft., width 3½ ft., with a rim around the edge from 4 to 6 inches high. The legs at one end are just long enough to permit of a barrel being set under the opening, and at the other about 4 inches longer so as to give the apples a tendency to roll down toward the packer. For convenience of moving some attach wheels to the legs of one end. We copy from the *Prairie Farmer* a drawing of such a packing-table, believing that it may prove of interest to many of our readers.

Of course the first basket-full will need to be carefully laid in the barrel by hand, but after that the packer can so break the fall of the apples with his hands that they will suffer no bruise, and can sort as rapidly as two or three would do, picking them up from heaps on the ground. With this table the packer may follow his pickers from tree to tree, and have each basket-full emptied upon his table as it is brought down from the tree. If he is making two qualities of firsts, or two sizes, of course he would need a second barrel close at hand to receive the extras; and the seconds, whether from the tree or the ground, may be left in heaps till the choicest are shipped away. Mr. Starr

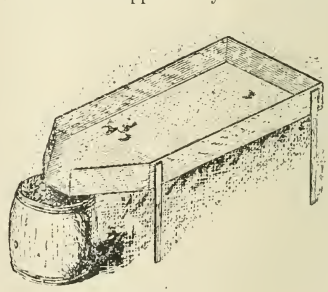


Fig. No. 74.

says he uses fine, dry shavings in each end of the barrel, covered with good white or manilla paper; and thus pro-

tects the fruit against bruises, and provides an absorbent for any moisture exhaled by the fruit.

Yankee ingenuity, which provides us with so many labor-saving devices, is also promising to lighten the labor of apple picking. A New York State fruit-grower has invented an apparatus constructed chiefly of canvas, somewhat like an inverted umbrella, into which the fruit is shaken from the tree. A small aperture empties the fruit into the baskets. We must confess our fears about thus shaking off our finest apples, but at the same time hope that some speedier mode may soon prove commendable, in place of the present slow process.

VICTORIA PARK, NIAGARA FALLS.

BY T. HOYES PANTON, M.A., F.G.S.

HAVING had a desire to spend a portion of my summer vacation in the study of practical botany, a few weeks ago I proceeded to Niagara Falls, believing that conditions are present there which are likely to develop a varied flora. Making headquarters in the vicinity of the Victoria Park, from day to day, for some weeks, excursions were made, not only by myself, but others who became interested in this popular study. To our surprise we found our expectation more than realized. Flower after flower was found, that is not obtained in the interior of the Province. Scarcely a trip was made without a new acquisition to our herbarium. No field was more productive than our Provincial park, in which an exceedingly varied collection of wild plants is found. This beautiful resort possesses conditions admirably suited for the development of plant life, a varied soil, suitable temperature and continual moisture from the ceaseless rising mists, which fall and bathe continually the vegetable forms near the Falls.

In one week upwards of 200 species of plants were obtained, and I have reason to believe 400 could be discovered.

Our visit being made in July, most of the species obtained are in bloom during that month, consequently many of the spring flowers were not to be seen, and the comprehensive group of Asters had not appeared.

Surrounded by such attractive conditions, the idea at once was suggested to me, that here we had a most magnificent combination of things suited for the practical study of botany, that here fatigued teachers could repair in vacation, and while becoming reinvigorated for approaching duties, resting beneath the attractive shade-trees of the Park, they could be mastering a subject, which, above all others, should be taught in a practical way. Here in the shade you will always find it cool, no matter how intensely the sun may shine. It certainly is warm in the sun, but that makes the shade more fully enjoyed, and also explains the marvellous outburst of plant life in Victoria Park. Would it not be worth while for the park commissioners to have the gardener make a collection of these plants as they bloom each month? These could be put in an herbarium, named, and so arranged that access to them could be obtained for reference, and thus students of botany be greatly assisted, while spending a vacation at the Falls. Our park would

thus become a great botanic garden, in which plants indigenous to our Province could readily be examined.

Here we see the "Lover's Walk," "Way to Cascades," etc. Would not a path skirting the bank that bounds the park be well named the "Botanist's Ramble?" Here as he threaded his way for more than two miles, a magnificent panorama of plant life would pass before him, and many species be seen, which are comparatively rare away from this phenomenal botanical hunting-ground. Aside from the study of botany geological features of the river are at hand for examination.

Thus we have, if our Canadian students of science appreciate it, through the wisdom of our government, an El Dorado for the practical study of two of the most interesting, attractive and instructive departments in natural science. In the past, many avoided going to the Falls on account of exorbitant charges and the unprincipled conduct of hackmen. A day or two secured the extreme limits of a visit, except to those whose purse was of a more or less inexhaustible nature. Hotels, too, charged excessively, and it did seem as if the tourist, who sought this attractive haunt, must be prepared to spend carelessly.

That state of affairs has passed away. The opening of Victoria Park as a free resort for our people has shut out the aggressive hackmen; once within its gates you hear no more his vexing importunity; unmolested you may wander along serpentine paths, undisturbed sit at ease on seats arranged at points, from which inspiring views of the great cataract, leaping into the abyss before you, can be seen. At such hotels as the Wesley Park House, commanding a magnificent view of the Falls, for very moderate rates you can secure pleasant rooms and a well-furnished table. Thus the barrier of exorbitant charges is swept away, and the time has come when those who can thoroughly appreciate the works of nature and read from its fragmentary leaves the story of the earth, have placed within their reach the possibility of spending a vacation where rest, pleasure and instruction may be readily found.

HORTICULTURAL.

Russian Apples.

Those who have formed their estimates of the dessert quality of Russian apples upon their knowledge of Astrachan, Oldenburg and Alexander, ought to be told that their judgment is no fairer than it would be to judge American apples by the Ben Davis, the Mann, the Willow Twig, or a large list of inferior sorts that are yet largely grown. I do not hesitate to say that, among the 300 or more Russian varieties of apples already in this country, there are fully as many kinds which possess fine dessert quality as can be selected from a miscellaneous list of the same number of American sorts. Already many have had the opportunity to realize this in Russian apples of the Yellow Transparent class. But a large number of the later Russian, like St Peter, Golden White, Autumn Streaked, Heidorn and Popaff, are still finer in quality, and the same may be said of the winter sorts, like Longfield, Borsdorf, Bogdanoff, and others. They are also handsome apples, and the trees are healthy and productive. So far, however, very late keepers are scarce among them.—[T. H. Hoskins, M. D.—*Newport, Vt.; in Our Country Home.*]

Handling Fruit for Market.

Cold storage will not make good fruit out of poor, Seckel pears into Bartlett's nor bruised fruit solid. Much depends on the picking. If the fruit be left on the tree until fully ripe it will not keep; nor fallen fruit nor that whipped off the tree. The fruit should go to the cooler before any sound specimen shows ripeness, and a single pear, apple or grape that is imperfect may and probably will entirely spoil all that are put with it in the same package. The nearer to the cooler the orchard is, and the sooner the fruit is stored after picking, the better it will keep. Where late winter pears and apples are stored they are often, after late picking, put in bushel boxes and stacked on the north side of some building to remain until quite severe weather before going into the cooler. These same boxes are then removed to their places in the retarding house and piled one on another with thin pieces of lumber between them to admit the air. Summer pears should be picked before they ripen and put in the cooler if the best prices are expected. To know whether the fruit is ready, raise a specimen carefully by putting the hand under it, and if it part readily from the tree, although it be "as green as grass" it is ready to artificially ripen. Pears that become mealy on the tree, often rotting at the core, are juicy and delicious if ripened in the low, steady temperature of the cooling-room.

A great point in profits is in properly selling what is handled. A good reputation and neat packing are as necessary as good fruit. Attractive packages and surroundings often sell the fruit at once. So important is this that very choice cases of fruit often "go begging" for a buyer, while handsomely arranged lots of inferior varieties in poor condition sell rapidly.

Evaporating Fruit.

This is one of the leading industries in our county. Years ago large quantities were dried in the sun, but now it is nearly all done under cover. The price explains the reason. In our local papers common dried apples are quoted as retailing at five cents a pound and evaporated at ten cents—a very satisfactory reason truly.

Many growers dry their own fruit, generally using a small dry-house about four feet by six and six feet high, with a little furnace at the bottom for heating and racks filling the space above. These are sold for about $25. Others for greater safety from fire, are made entirely of metal. With one of these, ten bushels can be dried daily. But the most of the evaporating is now done by large establishments, using from 100 to 300 bushels per day. Probably in this town and the next one north there are over a dozen such. The owners evaporate their own fruit and buy from others, either by the bushel delivered or on the trees in the orchard. Last year the price paid by the evaporators varied from 15 cents a bushel for windfalls to 30 cents for good, picked fruit.

Not only are the best portions of the apples saved, but the whole is utilized. The skins and cores are dried and sold for jelly stock, and the small ones are cut up and dried without peeling. Some have also a cider press and use these for cider and vinegar.

Whether this evaporating is done in a large dry-house or a small one, the fruit, after being prepared for drying, is exposed to the fumes of burning sulphur before putting on the racks. This is done to keep it from turning a dark color. "Fire and brimstone" are a necessity for this end—as for bleaching in other cases.

In these same establishments, both great and small, raspberries are also evaporated in immense quantities. They are cultivated hereabouts extensively for this object—some growers raising from five to twelve acres each. Of course one of the special benefits to any locality from such industries is the

employment they furnish to the neighborhoods, especially in berry-picking time. Women and children are then in great demand, and hired girls are wont to desert their mistresses for a few weeks during this period.—*Farm and Home.*

Selling Direct to the Consumer.

SIR,—I see a good deal of correspondence from time to time in regard to the business done in the various British Markets in selling fruits on commission. Viewing the subject from a Canadian standpoint, my experience of many years has been quite against dealing with commission houses. Sometimes I made money, but oftener lost; and when I examine into the methods they have of doing business, I do not wonder at all at my losses. They only appear to get rid of the fruits in the quickest possible manner, never holding off from a bad market day to find a better price. Then I find in some cases, that the broker either owns or is interested in one or more retail fruit stores, and of course sells to these at a sacrifice, so far as the shipper is concerned. For the past eight years I have shipped only to direct orders, and only the choicest samples of fruit, and every year I find orders far more than I can supply; in fact, we find some of these brokers appointing agents in Canada to purchase finest samples and pay cash on delivery at the local railway station. What we want, however, is to get closer to the consumer; that is, instead of consigning to a broker, who generally sells to the wholesale fruiterer, and he to the retailer, who supplies the consumer, we want to get orders direct from the retailer, so that the consumer will get a better sample of fruit and at a reasonable price.— *Correspondent Horticultural Times.*

VITICULTURAL.

Marketing Grapes.

MR. J. H. SKINNER gave the following points, based on the practice in the famous Chautauqua County Vineyards, before his Horticultural Society, some time since: The grapes are all picked by girls. The pickers each have a number; and in picking, each one, on filling a basket, marks with the picking-shears her number on the handle. In this way the responsibility for any careless picking can be traced. Not how much, but how well is the rule. The picker is not allowed to touch the bunches with the hand, but to handle them by the stem. In packing, the clusters are lifted with thumb and finger, and with the sharp pointed grape scissors, all green, imperfect or bruised berries are deftly removed. Thus the bloom on the grapes is preserved. The fruit, after picking, stands three and four days to wilt, before packing. Of 10,000 baskets sold last season, the average weight was eight and seven-tenths pounds per basket. None but perfectly seasoned baskets are used; green baskets causing mold. Where Concords have been picked two weeks or over in the warm fall weather, all the cracked and bruised berries will show some mold, but as in picking all these are scrupulously removed, no harm is done. The Concord is never fit for shipping long distances, except it has been first carefully picked, then wilted, and then packed. The packers soon learn to lay in the clusters so as to fill the baskets just level.—*Popular Gardening.*

Keeping Grapes.

THE fruiterers are, at certain seasons of the year, quite constantly in receipt

of packages of Malaga (White Hamburg) grapes. So far as is known, the valuable packing material (cork dust), in which these grapes usually come, is not returned to the trans-Atlantic vine yardists to be used a second time, nor is it applied to any specially useful purpose here. Sometimes it is ruthlessly burned; generally it is wasted. Yet this substance has been found to be as reliable and useful a preservative of our own native grapes, as of the imported sort. Of course the stems and peduncles of the bunches will wilt somewhat, and turn a dark color, as do also those of the foreign variety, but the fruit itself will, when put away in this material in good condition, continue sound, and in unimpaired quality for a long time. When this packing material is at hand, and it can, as yet, be secured without much difficulty, the keeping of grapes by this method, especially for family use, is attended with so little care and trouble that those who admire this fruit should not fail to avail themselves of the opportunity afforded for practising it. The writer, by way of experiment, has tried keeping grapes in this way during the present winter, and as it has succeeded beyond all his expectations, hopes to repeat it next season and thereafter so long as cork dust can be had by asking for it. The varieties put away were chiefly Goethe (Rogers No. 1) and Montgomery, a half-hardy white grape of indifferent quality, but which seems to keep well. At the date of this writing (Jan. 12th) the bunches of this latter sort remain unbroken, while the berries are as perfect as when they were put away.—*Montreal Witness.*

STRAWBERRIES.

Bulletin No. 5 of the Ohio Experiment Station gives the following result of tests made with the varieties named:

Bubach.—The most luxuriant in foliage of all varieties tested. It was, however, somewhat disappointing in fruit, the quantity seemingly being less than such plants ought to produce. The quality is rather poor, and towards the last of the season the berries do not make a good appearance in the basket. On the whole, however, it is a remarkable variety, and possesses sufficient good qualities to win for it a permanent place on the list of profitable market sorts. It can hardly take high rank for family purposes, but as a market variety it will prove to be valuable, and may be planted with safety by commercial growers. It ripens the main part of its crop rather late. It withstands drought well.

Crescent.—In most sections this is still regarded as the most profitable of the old varieties. It is the standard here both for productiveness and earliness.

Cumberland.—Too well known to require an extended notice. It can be recommended for private growers only, not being sufficiently productive for market purposes.

Covell.—This variety is about one picking earlier than the Crescent, and deserves trial by those who find early berries profitable. It will thrive on light soil, hence could be grown on gravelly or sandy southern exposures, where it would ripen nearly two weeks in advance of most varieties. It yields the bulk of its crop at two pickings, after which the berries are too small to be marketable, even with good cultivation. It is not a profitable market variety, except as indicated, or possibly for forcing.

Itasca.—All that can be desired as to productiveness and quality, but the berries are too small for it to become a profitable market variety.

Jewell.—Essentially the same may be said of this variety as in former reports. It will succeed only under favorable conditions, but responds readily to high cultivation. It sends out very few runners, and is especially well adapted to hill cultivation.

Jessie.—This variety has, for three seasons, given very satisfactory results here, on both fall and spring set plants, and on several different kinds of soil. It does not yield as heavily as the Crescent, but does not fall far below, while the fruit would sell as high in market as that of any other variety, because of its fine appearance and good quality. Commercial growers can hardly fail to find profit in the Jessie, and it will surely please amateurs. It is one of the best varieties for the family garden. Some unfavorable reports have been heard concerning it, as many of the plants first sent out failed to grow, and it does not seem to be equally well adapted to all localities, being rather more restricted in range than the Bubach and Crescent. It is not far from the truth to say that it yields more first-class fruit than any other variety at the Station, but this locality cannot be taken as representing the whole State Every grower ought to try it on his own soil, especially if he can sell choice berries at a premium, otherwise he may find more profit in the Crescent and Haverland.

Fall Planting of the Strawberry.

What are the wants of the strawberry when planted in the fall? The soil for the strawberries should be rich and moist, but not wet. It matters not whether it be sand, clay or muck, so that it furnishes anchorage for the plant and contains an abundance of the elements necessary to its growth. It should be stirred to a good depth, but little or no poor subsoil should be brought to the surface. It is well to have it prepared some little time in advance, so that it may have time to settle somewhat before the plants are set. The surface should be rich. This is especially important with fall-set plants, as their roots have comparatively little time to go far in search of food. There is another advantage in encouraging surface roots: they are not drawn out nor broken by the expansion of the water in the soil when it changes to ice, but rise and fall with the ground. Roots that run deep are apt to be broken or drawn out—as red clover—while white clover roots remain uninjured, although frozen and thawed a dozen times. If the soil has been enriched for a previous crop, so much the better; but if not, well decomposed stable manure may be worked into the surface either before or after setting the plants. Bone dust and wood ashes will supply all that may be lacking in any soil, and these can be obtained in nearly all parts of the country.

A plant receives more or less of a check by being taken up and reset, in the growing season, even though this be done in the most skillful manner. The following method I have used with great success for more than a quarter of a century: The plants are taken out of damp soil, with great care, divested of all runners and superfluous leaves and thrown into a pail of water. They are then carried to the new bed, and each one taken out as planted. The roots are spread out in fan shape, with the crown even with the surface, and a little damp soil put over the roots and pressed firmly against them. The balance of the soil is then filled in loosely. If the weather be very hot after transplanting, a little shade during the middle of the day, for a time, will be an advantage.

Soon after the plants are set out they will commence to send out runners, which must be cut off as soon as they appear. The soil should be kept well stirred from the time the plants are set until the end of the growing season; but all deep cultivation should be discontinued after Oct. 1, lest the

surface roots be injured. Plants set in the fall—the earlier the better—will produce fine fruit the following June, and will make a far greater growth than if the planting be postponed till spring.

As soon as freezing weather comes, the whole surface of the bed should be covered to the depth of two or three inches with straw or any light litter. Early in the spring, when the plants begin to grow, the covering should be removed from over the crown of each plant, and left between to keep the ground moist and the fruit clean.—[M. Crawford, in *Farm and Home.*]

USES OF FRUITS.

Fruits for Health—How to Eat Them.

The *Moniteur d' Horticulture*, of Paris, France, is now one of our exchanges, and we shall have pleasure in occasionally translating an article for the benefit of our readers. The last number, under the head of Hygienic Gossip, says :

"For more than one reason fruit should be regarded as both wholesome and curative. Its influence upon the human system has not been sufficiently pointed out, and this is a fault, for we can, with the aid of fruits alone, alleviate, or else completely cure all the ills to which our wretched body is subject. It is a fact, discovered by science, that persons of robust constitution, who eat good fruits in moderation, live to a very advanced age. Yet, for all that, one should just know how to eat them.

"Avoid swallowing the skins of pears, peaches and apples, the stones of cherries and apricots, likewise the seeds of oranges and lemons. These insoluble substances lie heavy upon the stomach, and sometimes cause very serious trouble in the intestines.

"Reject the skin of the grape as well as that of the orange; by itself, the fleshy part of any fruit, when mature, is very nourishing; but take it as a sort of substantial dish, and not as dessert. Plums, cherries and grapes are not as easy to digest as peaches, which contain a larger proportion of soluble elements; also, one can recommend the latter for weak stomachs. With your fruit eat some dry bread, because it has the effect of cleansing the tongue and enables you the better to taste the flavor of the fruit itself."

A doctor once said: "Nothing does more to rid me of patients than the daily use of fruit. It clears the organs of every impurity."

Cider Vinegar.

Unless near a large market it is often difficult to sell the surplus of summer and fall apples owing in great measure to their lack of keeping qualities. One good way to dispose of them is to work them into vinegar. It will not be long now before apples will begin to ripen, and those who have a large number of early apple trees will find the following article from the *N. E. Homestead* suggestive and of value :

Good wholesome cider vinegar is seldom met with nowadays in a grocery. The product called cider vinegar sold everywhere in groceries is manufactured on a large scale directly from alcohol by diluting it with water, adding a little yeast, and exposing the mixture to the air. The last operation is best effected by causing the liquor to trickle slowly through a cask filled with beech or oak shavings which have been previously soaked in vinegar. This process is known as the quick process of making vinegar, and it is very sharp. It is reasonable to suppose that good vinegar cannot be made in this way. The best vinegar, therefore, can be

made on every farm from the sugar contained in the juice of apples, and is the one in the manufacture of which farmers are interested, and which is the best for general domestic use.

When cider is exposed to air the yeast principle soon begins to operate and cause the first fermentation by which a little starch is converted into sugar, but almost simultaneously the stronger fermentations begin by which the sugar is converted into alcohol. If the temperature is low, and the cider left undisturbed, it will rest here for weeks and perhaps months. With a rise of temperature, or stirring frequently, the third fermentation begins, called the acetic acid. The change will be slow or rapid, according to the atmospheric exposure.

If the cider fills the barrel the change will be slow ; if the barrel is half full the exposure will be greater, and the change will consequently be more rapid. If this amount be stirred vigorously once a week it will be still more rapid, and if stirred once a day it will be more rapid still. These very rapidly made vinegars are always of inferior quality, having a stinging taste. No vinegar can be called a good article that has not a rich "body" and a fine aroma. It cannot be made in a hurry. A certain amount of old stock in casks thoroughly impregnated with acetic acid is necessary for its production. The cider, after having passed through the fermentation which converted the sugar into alcohol and precipitated all solid matter to the bottom, or threw off when the cask was full and the bung open, is racked off into other casks. A certain quantity, say five gallons more or less, is weekly, during the summer season, drawn out and added to the half-filled hogshead containing stock.

After the cider is added to the stock the whole is stirred vigorously. This operation may be repeated once or twice a week, or not so often during the summer, just owing to the temperature. Good vinegar cannot be made from poor, watery cider. Sweet apples make the best. Unfortunately your city markets are full of poor stuff, quickly and cheaply made from whiskey and water. A little of the former mixed with a large quantity of the latter produces acetic acid very rapidly. This now greatly injures the market for pure cider vinegar.

A barrel of pure cider vinegar was offered on the market by a farmer. The grocer, after tasting the vinegar would not buy it, saying that he could not sell it, as his customers wanted sharp vinegar (made out of whiskey) and consequently no sale. Hence we do not see why every farmer who owns an orchard should not only have for his own use the pure cider vinegar, but also sell to those less fortunate in the ownership of an orchard.

Unfermented Grape Juice.

A writer in *Pacific Rural Press* tells his method of making a wholesome beverage as follows :

"In the first place, I stem the grapes and press out the juice into a tank, letting it stand over night to settle. In the morning I rack it off and then filter, thus rendering it free from all vegetable matter. I also take a quantity of black grapes and put them in a boiler, letting them come to a boil, in order to produce a dark juice. This juice I also filter. Now, by blending these juices, any shade of wine I desire is produced, from a light pink to a deep claret color.

"I then put the wine in a boiler (which should be of copper, with a faucet at the bottom for convenience in bottling), and let it come to a brisk boil, skimming what rises to the surface. It is now ready to draw off into bottles, which should be standing in hot water to prevent breaking on the introduction of hot juice. When the bottles are filled they should be corked immediately, and then dipped into melted resin, which seals them air-tight.

"I think that wine made in this way and brought into notice would soon become the most popular beverage used, taking the place at dinner that coffee does at the breakfast table."

Apple-Butter in Pennsylvania.

One of the most delicious dishes among our Pennsylvania German farmers is apple butter. It is made in the fall of the year, of ripe apples and pure sweet cider. I remember in childhood, how, long before daylight, the great copper kettle, holding more than a barrel of cider, was placed over a roaring wood fire, where it continued to boil until the cider was reduced to less than one-half the original amount. As soon as the morning's work was done up, the whole family began to pare and cut into quarters the apples. This was a long task, keeping five or six persons busy until the noon hour. My earliest remembrance reaches to the time when the paring machine was not in common use; so that all hard work had to be done by hand.

When the cider was reduced to one-half, the cut apples began to be introduced, a pailful at a time. The fire was kept roaring all the while. With the introduction of the apples began the stirring. This was done with a stirrer having a handle over ten feet in length, the stirrer being fastened at right angles to the handle. From noon until 10 o'clock at night the stirring frequently went on without intermission. The contents were boiled and boiled, until there resulted a sweet stiff mass, considerably less in volume than half a barrel. When done, it was dipped out into earthenware vessels, over the top of which was tied brown paper, and then the vessels were stored away in the garret, where the butter has been known to keep for twenty-five years.

Apple-butter is a very healthy food, and in great demand among farmers in Pennsylvania during the butchering season to assist in the digestion of fatty foods then so largely in use. Sugar is sometimes added, if the cider and apples both are sour, but if the cider is made from ripe apples, not too sour, and boiled down well, sugar will not be needed. Some season with various spices, but generally it is best with no spices.

Pear-butter may be made in the same way as apple-butter, using apple cider and pears. It is richer than apple-butter. An excellent butter is also made by using half pears and half apples. Quinces may also be used to flavor the butter, but they are too rich to be used alone.

So far as I know the apple-butter here described is a Pennsylvania dish. It differs from that made elsewhere in the long boiling to which it is subjected, but this gives it its principal excellence. It has often occurred to me that apple-butter might be made with profit on a large scale, but the public taste would probably first have to be educated to use it.—*Ex.*

Tricks of the Trade.

"What b-e-a-u-tiful peaches," said an old lady as she stopped at a stall in the market and admired a basket of early peaches. They were covered with pink gauze and looked very tempting.

The old lady bought the peaches and took them home. The next day she appeared again at the stall and showed the stall-keeper a small piece of pink net.

"Do you keep that kind of veiling for sale?" she asked.

The stall keeper told her that he did not

"Well," she said, "when I got them peaches home they were small, and sour and green, and I thought if I could get some of that stuff that made them look so pretty and plump in the basket, I'd wear it myself. If it would improve me as much as it did the peaches, folks would think I'd found the Elija of life."

FLOWERS

THE HOLLY-HOCK.

By L. H. Wilder, Cooksville.

ON a long and slender stalk
Blooms the jaunty holly-hock;
Who so saucy, who so tall,
Peeping o'er the garden wall?
Rosy red and softest white;
Sunshine is its keen delight;
Dainty pinks, dark crimson shades;
Fav'rite beau of the old maids.

Is he near some humble cot,
T will become a lovely spot;
If the curtains are not high
Look within—he is not shy;
In broad daylight, him you see,
Kissing butterfly and bee:
Hale and hearty on his stalk
Sways and smiles the holly-hock.

Coleus.

My practice with Coleus is to grow fine healthy plants this summer, and in August and September, before frost, take cuttings for my winter stock. This may be done without the aid of glass or any protection, if some shade and moisture is secured. Under trees or dense shrubbery, the temperature is about right to root them.

Mellow the soil in the place intended for them, cover this with some two or three inches of sharp, clean sand, level it off and water well. Never take off more cuttings at one time than can be attended to immediately, as they wilt if cut long, and never recover from it. Cut them with three or four pairs of leaves, leaving the lower pair attached, but cutting close to them, insert in the sand only enough to secure them in position, placing them in rows, say an inch or more apart each way. When fully rooted, which should be in a few days, either pot them in small pots or transplant to another bed, in either case observing to give them full morning sun, but shading the first day or more after disturbance. If inclined to grow tall or spindling, pinch the tips; this checks elongation, and furnishes strength to the incipient buds at the axils of the lower leaves and causes them to break and form branches. When these have made their third or fourth leaf, pinch as before; this will form beautiful shaped plants, very bushy and desirable. They should be regularly watered and well protected from chill or frost.

If grown in window garden, they will need the sunniest and warmest

shelf and extra protection at night. After the holidays take cuttings, observing the same rules, etc., substituting a shallow box for the garden bed, discarding the old plants altogether, as at this season in room-culture, especially, they will have lost nearly all their foliage, except the tips of each branch. But these will make splendid new plants. In the greenhouse the work is about the same, except that it is more sure, bottom heat being available with full sunshine.—[*Vick's Magazine* for September.]

The Garden Walk.

In the best kept gravel walk the irrepressible weeds are forever coming up, and unremitting attention is generally required in keeping these paths free from them. Pulling the weeds up is objectionable, because of the holes which are made in the walks; salt plentifully scattered is the popular way of killing the weeds, but the great drawback to its use is the wet appearance of the gravel, which is caused by the slightest approach to dampness in the atmosphere. Undoubtedly the best method of effectually destroying the weeds, without disturbing the walk, is to use diluted carbolic acid, using the proportions of one part acid to a 100 parts of water. This mixture must be applied through a watering pot with the rose on. Great care must be taken that none of the liquid splashes on to the hands; also, if the edgings are of box grass, or any other vegetation, the liquid must not be allowed to fall on them, as it will destroy them as effectually as the weeds. A somewhat similar plan to the proceeding is to use common vitriol diluted in the proportions of one part of vitriol to thirty of water. This must be administered in the same manner as the carbolic acid, great care being taken that none of the liquid falls either on the borders, or the clothes or boots of the operator. For using the vitriol the evening of a hot day should be selected, and the person using the liquid should pour it on the path while walking backward. A day or two after using the vitriol the dead weeds may be swept up.—*English Gardener.*

FORESTRY

THE BEST TREES FOR SHADE.

THE best trees that can be planted for affording shade in pastures are those that are hardy, stately, that have wide-spreading branches, and which cast a dense shade during the hottest portions of the summer. Those which grow quickly and can be propagated by means of sprouts and cuttings are to be preferred. Everyone has observed that soft-wood trees grow much more rapidly than those that produce hard wood, and that nearly all of them succeed best on land that is somewhat low and moist. One of the best trees for moderately moist land is the American linn, or common basswood. The tree is beautiful in all stages of its growth. It is very hardy and attains a large size. Insects are not likely to injure its roots, trunk or leaves. Its leaves are of remarkable size, thick, and of an agreeable, green color. It casts a very dense shade, which is agreeable during the hot days of midsummer. It is a

very clean tree and highly ornamental. If the trees are isolated and stand in suitable locations, they ordinarily have very wide-spreading branches. Sometimes several trunks will grow close together, and present a very beautiful appearance.

The sycamore, buttonwood, or "button-ball tree," is another excellent tree for land that is somewhat moist. It is one of the largest trees found on this side of the Rocky Mountains. Along the banks of the Mississippi River and its tributaries it often attains the height of eighty feet, and has a trunk from six to ten feet in diameter. The tree is possessed of great vitality. If the trunk becomes hollow a living shell remains around the cavity, which protracts the life of the branches. These hollow trunks were utilized by the early settlers of many of the Western States for grain bins, smoke-houses, and shelter for fowls and pigs. Hollow sycamore trunks have afforded shelter to many families of Western pioneers. The trees can be easily propagated by seed or ripe wood cuttings of either one or two-year old wood cut late in the spring or early in the fall. The wood is very hard to split, quickly decays, and is of very little value for timber or fuel. Sections of large trunks make good blocks for cutting meat. The tree, however, is of very little value except for ornament and shade, but for these purposes it is very desirable.

For higher land the silver-leaf poplar has many advantages. It is readily propagated to cuttings, grows rapidly, and attains a large size, while its branches extend over a large space, and afford a good shade. The tree is healthy, not liable to be injured by insects, and attains a large size. A few of these trees on a farm serve a useful purpose by way of ornament. The wood makes excellent fuel The tree, however, is very objectionable in one respect. If its roots are broken or disturbed they throw up a large number of suckers that are very hard to kill or keep in subjection. In planting in a permanent pasture, however, this proneness to throw up sprouts from the roots is not likely to prove a serious objection. If the sod over the roots remains unbroken the suckers will not appear as they do on land that is plowed every year. The silver poplar is an imported tree, and we are just finding out what it is good for. When first introduced it was planted in lawns, gardens, and on the sides of streets in large towns. The numerous suckers thrown up in land that was cultivated condemned it for these places. It is, however, an excellent tree for producing shade in pastures and for affording fuel.

The common cotton or whitewood possesses most of the advantages of the basswood and sycamore, but in an inferior degree. It is not as beautiful, and does not produce so dense a shade. When the trees stand at some distance from each other and are kept properly pruned they are quite attractive, and serve as ornaments to well-kept grounds. All these trees are mentioned because they are easily propagated and grow quickly. Maples, elms, birches, beeches and hickories, are far more valuable for most purposes, and most of them afford good shade. It is necessary, however, to raise the trees from seed, to purchase them from nurserymen, to move them ordinarily long distances, and to wait many years before they will produce much shade. Trees that are late in leafing out in the spring, which have scant foliage, which are liable to disease or to attacks of insects are not desirable for planting in pastures. Neither are trees whose foliage is eaten by cattle or sheep. The quicker a tree grows the shorter will be the time that it will require protection against animals, and the less will be the cost of raising it to a size to afford shade.—*Fruit Growers' Journal.*

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

WE may congratulate ourselves upon the outcome of our discussions at Picton upon the fruit carrying by railways and steamships for exportation. Our president, Mr. A. McD. Allan, has been interviewed by the leading newspapers of Montreal upon the subject, and to them he explained the points of complaint against the railway companies, and that New York lines of steamers gave Canadian shippers better accommodation than Montreal lines. The result was a general investigation of the whole matter. The Beaver line has already agreed to take Canadian fruit from any points, and give us through bills to any market, apples to be at their count and not at the shipper's count. They will store them in a separate compartment of their vessels, and give such an atmospheric cool blast that the fruit will be kept in a very fine condition. This line will have the system complete in good time for us in their three finest ships, the Ontario, Huron and Superior. Mr. Allan says he went over the Ontario and is charmed with the way their "Fan System" works. Besides this they have the latest port ventilation, which is most ingenious and effective.

Such exertion in our interests on the part of steamship companies merits our patronage, and no doubt this will be freely accorded, as a reference to Mr. J. B. Thomas' letter shows that exportation of apples promises this year to be more than usually remunerative.

THE HOUSE SPARROW.—The *American Garden* says this bird preys upon the elm leaf beetle in the large cities, and, where abundant enough, prevents its extended ravages. Is it possible that passer domesticus ("*devastatus*") has a single redeeming feature.

THE YELLOW TRANSPARENT, according to Dr. Hoskins, is a comparatively short-lived tree, and hence better adapted to gardens than orchards. He recommends planting it 12 x 24, with gooseberries or currants in the rows, and peas or potatoes between; with him the trees kill themselves with overbearing. He also advises top-working of the Wealthy, because it seems to lack vigor in the trunk. As

stock for this purpose he advises the Oldenburg, or Tetofsky.

Prof. Wm. Brown has retired from the chair of Agriculture, at the Ontario Agricultural College, Guelph. His ability has been generally acknowledged and he carries away the assurance of the high estimation in which he is held both by his students and by the general public. Mr. Thomas Shaw, editor of the *Canadian Live Stock Journal*, and Secretary of the Central Farmers' Institute, has received the appointment as his successor. The qualifications needed for such a position are rare; as for instance both a practical and theoretical acquaintance with Canadian Agriculture; a first-class general education, and aptness to teach. Mr. Shaw is a successful farmer, an untiring student, and well-fitted to instruct; therefore we think there can be no mistake in his appointment.

The Lucretia Dewberry is wholly condemned in the R. N. Y. of August 11. The berry is large, early and a good quality, but it is no better than such upright growers as Kittatinny, Lawton, etc. and its prickly leaves and spreading canes of some twelve feet in length are serious objections. "Our final opinion," says the editor, "of the Lucretia is that if we were obliged to have Lucretias, or go without blackberries, we should vote to go without."

We do not feel prepared to sound the death warrant of the Lucretia quite so soon, although it may prove just in the end. Our hope was that its trailing habit would enable it to pass the winters uninjured, quite far north, and thus provide this refreshing fruit where it would be more appreciated than in such a land of plenty as the neighborhood of New York City, or of Grimsby. We shall be pleased to hear from members of our Association their experience of this summer with the Lucretia.

Ostheim Cherry.—Mr. J. L. Budd, of Iowa, writes the *American Garden* that he had, on June 4th, several hardy dwarf cherry trees in bearing, and that, notwithstanding a previous severe winter, the little round-topped trees were well loaded with half-grown fruit. Of the *Cerise de Ostheim* he says: "All things considered, we think this the most valuable of the Ostheim family. It comes into fruiting when only four or five feet in height, and is very hardy in tree and in fruit buds. Fruit larger than Early Richmond, with small pit, flesh and juice, red; tender, juicy, and when ripe nearly sweet."

It was the Ostheim cherry which was distributed last spring to the members of our Association.

Algonquin Forest.—It is proposed to form an immense forest preserve about the head waters of the Muskoka river and the feeders of the Ottawa river, a well-watered and well-wooded territory of nearly 400,000 acres in all. This would be known as the Algonquin Forest, and, under the management of a skilled forester would not only exert a direct influence upon the water supply of our country, but would be a source of permanent supply of lumber, instead of being mismanaged and destroyed in the present reckless fashion. Even the passing tourist can't help observing the sad disfigurement that is rapidly defacing that country through forest fires and reckless methods of lumbering. Our foresters should awake to the importance of pressing such a wise measure upon the notice of our Government.

Rose Aphis.—According to the *Canadian Entomologist*, Mr. A. R. Grote has been quite successful in his experiments with a weak solution of Creolin upon Rose Aphides, without in the least damaging the plants. He thinks this disinfectant may prove an exceedingly valuable help to the gardener.

An Apple and Pear Conference, according to the London *Evening Post*, is to be held in the gardens of the Royal Horticultural Society in Cheswick next October. The notion of the benefit of such a meeting, annually, seems to be derived from the use-

fulness of such societies as the Fruit Growers' Association of Ontario, in commending varieties best suited to various localities, and the object is similar.

Co-Operation With Farmers' Institutes.—At the last meeting of our Directors it was ordered that the secretary correspond with the secretary of the Central Farmers' Institute expressing the readiness of the members of our Association to co-operate with the Farmers' Institutes of Ontario and with the Central Institute.

In reply, Mr. Thomas Shaw, the Secretary, writes, enclosing the following:

At a meeting of the Executive of the Permanent Central Farmers' Institute, held in Toronto, 27th July, the following motion was unanimously passed:

"*Resolved*—That the thanks of the Executive be tendered to Mr. L. Woolverton, the Secretary of the Fruit Growers' Association, for the intimation just received of the desire of that body to co-operate with the Central Farmers' Institute in its work. It is the opinion of this committee that such co-operation would be mutually helpful. We, therefore, recommend that the by-laws of the Institute be so changed as to admit two delegates of the Fruit Growers' Association, the Eastern and Western Dairymen's Associations and the Ontario Creameries Association."

It was ordered that the secretary forward a copy of this resolution to the secretary of each of the associations named, with the request that it be brought before the Executive of these bodies at the first opportunity.

We hope much good may result from such friendly relationships. The farmers are the ones with whom our work chiefly lies, and many of them are finding their orchards the most remunerative part of their farms. The subject of fruit culture, therefore, in some of its departments should always be a prominent one at Farmers' Institutes, and our directors in each agricultural division will always be ready to attend and impart any information upon their favorite subject. In addition, we have among the directors and members of our association several specialists in fruits, flowers and forestry, whose services could be secured to give lectures or addresses before such institutes as may desire them.

An Inspector of Apples for Export.

Mr. W. Boulter, of Picton, forwards us a letter from Mr. N. Hudgin, South Bay, advocating the appointment of an inspector of apples for export, for the purpose of fostering the trade, from which we make the following selections:—

"1st.—The export trade, which is our only hope, is largely on the increase, and requires a more careful selection and proper branding, as a considerable quantity go forward improperly named. 2nd.—The shipper employs a number of packers who endeavor, if by the barrel, to pack as large a number as possible regardless of the employer's interest, and as it is hard to trace this, results in heavy loss,—"or if by the day," are subject to influence by the farmers who are always in attendance, compelling them to pack apples that are hardly fit for evaporating, thus injuring the apples in a foreign market, and subjecting the shipper to a heavy freight bill on goods that would not pay transportation and robbing our industries of stock that should be left for home uses. Lastly.—The farmer could pack his own apples and save fifteen cents per barrel, and the trouble and board of a lot of men, if desirous to do so, and likewise take the consequences. On the other hand 'the packer' would have to look after his own interest or be subject to discharge and curtailment. Every tenth barrel could be gone through, or more or less as necessary, and this would have, in my opinion, a tendency to check the abuse."

QUESTION DRAWER.

Hardiness of Climbers.

90. WILL Bignonia Radicans and Ampelopsis Veitchii stand the climate here without being covered in winter. If they need covering what is the best material to cover with?—L. F. SELLECK, *Morrisburg, Dundas Co., Ont.*

NEITHER of these climbers is hardy enough for Dundas county without protection. Even at Grimsby the young wood of the former is usually more or less killed back every winter; but after a time it becomes a stout vine and succeeds well here unprotected. Ampelopsis Veitchii is perfectly hardy here. At St Catharines, Mr. Dunlop has a fine specimen climbing over a brick wall; but at London, Ont., it is reported tender. As the plant is soon to be sent out for testing we hope to know exactly how far north it will succeed. Probably nothing is better for protection than coarse strawy manure, or leaves.

Asparagus.

91. CAN an asparagus bed of four or five years' standing be removed, and when is the best time for doing it?—ROBT. STEED, *Cole's Corners.*

Reply by D. W. Beadle, St. Catharines, Ont.

YES. Take up the roots in the fall after the summer's growth is dead, remove all the dead parts from the roots, plant in the new bed and cover with coarse manure from the horse-stable to the depth of six inches. After the weather has become settled in the spring remove the coarse portions of the manure, and fork the remainder in between the rows of asparagus.

Fungus on Raspberry Canes.

92. ENCLOSED I send you three pieces of raspberry canes all diseased in the bark with something resembling rust in wheat. Two of the pieces are canes of this year's growth, one showing the commencement of the disease in spots near the ground, another shows it spreading over all the cane, which becomes a light steel-blue color. The other is a cane of last year which bears a few tasteless berries. What is the disease or is there any remedy? The soil is loam, with a hard clay subsoil, with open cultivation. Distance 7 x 4 feet shaded somewhat by fruit trees.—ROBERT STEED, *Cole's Corners* (near Sarnia).

Reply by Prof. Panton.

THE canes sent have been received. Specimens of this nature have not come under my observation before. I cannot just now identify the fungus which causes this diseased appearance of the canes, but am inclined to attribute the trouble to a fungoid growth of some kind. It is likely the raspberries are not in a very vigorous condition and while in this state the fungus finds suitable surroundings for its growth. The hard clay subsoil referred to in the enquirer's note likely prevents proper drainage and thus favors conditions unsuitable for vigorous growth.

To bring about a healthy state of affairs I would suggest thorough cultivation, good drainage and manure. If the canes are much affected get rid of them and introduce new as soon as possible. Where plants are weak you generally find them attacked by parasitic fungi, hence the necessity of a healthy vigorous growth.

Wood Ashes.

93. WILL wood ashes injure a tree, if put close to the stem?—W. W. R., *Toronto.*

YES; if fresh unleached wood ashes is piled against the trunk of young trees it will burn through it, and possibly kill it. As a fertilizer the ashes should be scattered about the tree evenly at least as far each way as the branches extend.

Protecting Grapes from Frost.

94 WHEN seasons are wet here, we are subject to frosts that kill grapes early in Sept. Could you tell me where tarred paper could be bought suitable for covering vines at night? Would you explain in next No. of HORTICULTURIST about above and starting smoke on frosty nights in vineyard, same as they have to do in northern France and Germany. —R. GILLIES, *Williamsburg.*

Can any readers reply concerning the tarred paper? The plan of starting bon-fires throughout the vineyard on frosty nights has been tried in America as well as in France, and carefully managed, may succeed if the material is at hand and set on fire just at the right time.

Cutting back Peach Trees.

95. Can you give me some information concerning the proper time for pruning or cutting back this year's growth of peach trees. Some recommend its being done now, in order to throw them into full bearing the next year. Mine have grown most rampantly. The trees are some I set out two years old, three years ago, and others the same ages were taken up a year ago last spring. If it be safe and beneficial to cut this year's growth back, how much should be taken off? Any further information or suggestion you will kindly afford me, will greatly oblige.—William McMurray.

The *shortening in* system of pruning the peach tree has been long practised by the most careful peach growers both in the United States and in England, with the most evident benefit both in prolonging the life of the tree, and in the increase of the size of the fruit. Everyone knows what an ugly object an unpruned peach tree soon becomes; its black ugly trunk, and straggling branches bare of foliage, except at the extremity, are an eyesore to its owner: but this mode of pruning will keep the tree in a healthy, vigorous state, with abundance of fresh young wood and dense foliage. It consists simply in cutting off one half or more of the last year's growth all over the tree; or if a tree has been neglected, it may be cut well back into the old wood. This should be repeated year after year, and thus the tree kept in a well rounded shape, and a luxuriant growth result each season.

We have never practised cutting back the peach trees in the fall, because too occupied with the fruit harvest and other important fall work at that season. The usual time is in early spring, but we see no reason why it should not be performed in October, as soon as the summer's growth is completed.

Morse's Seedling Harvest Apple.

Dear Secretary.—I mail you here to-day a package containing specimens of my Seedling Harvest Apple, picked on the 8th inst., average size, neither the largest nor the smallest, but not equal in flavour to those grown on original tree which I removed in the spring and therefore not in bearing this year. The fruit sent is from buds inserted in another seedling which I suspect has reduced the flavour. The Seedling Harvest is superior to the old in size. It is a regular good bearer. Has never through all our "Test Seasons" shown the least "*spot*," when the *old* was regularly and utterly ruined. Never anything like "Leaf Blight." It is a very vigorous grower. Time of ripening, same as old variety, earlier if any difference. We are a week or ten days later than generally.—S. P. Morse, *Milton*.

Judging from the samples sent us by Mr. Morse, his seedling is all he claims for it. The fruit is above medium size, and round in form, while the Early Harvest is medium in size, and roundish oblate. The skin is very smooth with obscure white dots of a straw color, but not so bright as the Early Harvest. The Stem is shorter and stouter and set in a deeper and more irregular cavity. Calyx closed, set in a round basin, deeper and more regular than that of the Early Harvest. Flesh white, tender, juicy, sub-acid, but lacking the crispness, and the sprightly flavour of the Early Harvest.

However, its fine size, its earliness and freedom from spots, commend it to the notice of fruit growers with whom the Early Harvest does not succeed; coming, as it does, in advance of the latter, it should command a high price in our markets.

Aylesworth's Seedling Apple.

I send by express to you to-day a small box of my Seedling Apple. The season is late here and it has been very dry. Yet I have been eating them—mostly such as had been stung about a *fortnight*. I send a sample to you for your opinion. We are all (I suppose) inclined to a favourable opinion of our own. Hence the use of the opinion of others after searching us out. Any way I have eaten of them without harm a larger number these two or three years, from the hand, than I did of all kinds in twenty years before that.—J. B. Aylesworth, *Collingwood*, 16 *Aug.*, 1888.

This apple is also above medium size, and rather larger than the preceding,

but oblong in form, and slightly conical. The colour is not so attractive, being a dull green, with a very faint splash of brownish red on one cheek, with white dots. Stalk one inch long, in a deep, narrow, even cavity. Calyx closed in a small shallow basin. Flesh white, tender, juicy, mild; quality good. To our taste this apple is inferior in quality to the Early Harvest, and also to Morse's Seedling; yet on account of its fine size and freedom from spot, it may prove worthy of cultivation in some sections, especially as an early cooking apple, for home use and for market.

Seedling Gooseberries.

DEAR SIR,—Mr. S. Greenfield has just handed me in some samples of seedling gooseberries raised from an English one. The samples were raised on ground that never had any manure and grown below trees. If proper cultivation were given to them they would be twice the size they are. Mr. Greenfield deserves every encouragement. He has numbered them and expects your opinion of them through the HORTICULTURIST.—N. ROBERTSON, *Ottawa*.

The samples came to hand in bad order, because not packed tightly enough in the box. Our friends in sending specimens should use cotton batting or other material, and pack the fruit tightly.

The seedlings are numbered from 1 to 5. No. 1 strikes us most favorably, being very large, and light green in color. Numbers 2 and 5 are somewhat alike in appearance, but both of a dark green color, resembling the Ottawa, and both large in size but inferior in quality to No. 1. Numbers 3 and 4 are light yellow in color, but both too small for propagation as market berries.

So far as we can judge from the state of the samples, we would advise Mr. Greenfield to propagate numbers 1 and 5, and send some plants to the Experimental Farm for careful testing. For the best results, however, we must depend upon varieties having more or less native blood, and if Mr. Greenfield would attain the highest success, he should at least cross the English varieties with some of our best natives. European varieties of apples, pears, grapes, strawberries, etc., are not as a rule the varieties most suited to our soil and climate, and the same rule is found true of gooseberries, unless under the most favorable conditions.

Crosby's Seedling Gooseberry.

DEAR SIR,—I have sent you by to-day's mail a sample of gooseberries grown on a bush which I received from Mr. L. Crosby, of Markham, about seven years ago. They seem to be free from mildew, and if propagated I think would prove a valuable addition to our small fruits. Mr. Crosby called it Crosby's Seedling. Four years ago I gave Mr. Ellis, of Orillia, some gooseberries and he raised some bushes from them. They are now fruiting well and bearing good fruit. I have been moving about or I would have had more bushes by this time. I remain yours, A REEVE, *Highland Creek*.

If this gooseberry is a Canadian seedling it is truly a marvel of excellence. The box sent us by Mr. Reeve contained four samples in excellent condition, and so large, and of such a very dark red color, that one would at first declare they were plums, and not gooseberries at all. The fruit may be described as very large, roundish, slightly oval, skin smooth, thin, very dark red, with veins of lighter red, mostly dotted with small grey dots; stem stout, calyx prominent. Quality excellent.

At present it appears there is no fruit with which we are so behind the English gardeners as with gooseberries. While they have more than a hundred choice varieties of red, white, green or yellow color, we have only two or three green varieties and one or two red worthy of general cultivation, and these too small in size to bring much money in the market. Such a gooseberry as Crosby's Early, if it continues mildew proof, would take wonderfully in our markets. It has, however, every appearance of being a full blooded English gooseberry

OPEN LETTERS.

First Canadian Grapes.

SIR,—I have this day shipped to Toronto two baskets of grapes, and I think they are the earliest in Ontario; some of them were ripe on the 21st, but not enough to ship. They are the Worden, and I have the Jessica, Niagara, and Concord, growing under similar conditions, but they are not nearly ripe. They were grown on the face of a hill looking south. Please publish in the HORTICULTURIST, and let us hear from other growers about their early shipments. —JOSEPH BOURNE, *Niagara Falls South, August 25th, 1888.*

Apple Crop Prospects.

SIR,—I am obliged to you for your "Journals" which appear very interesting. The object of the present is to acquaint you that I have carefully examined the various reports I have received respecting the "Apple Crop" prospects in the European Centres and to inform you as concisely as possible the results for your guidance and those of your friends:

Germany will have almost no apples for export. *Belgium*, though reported a shade better will be in very short supply. *Holland* has a very inferior crop, and as regards *England* such an utter *failure* is not known to have happened before. The result will be that we shall require to draw our supplies from America and Canada much earlier than usual and I am prepared to see a large and remunerative season's business.—J. B. THOMAS, *Bleund.*

A Letter from Middlesex Co.

The Fruit Crop, Seedling Gooseberries, The Dewberry, Freak of a Rose.

SIR,—This has been a rather remarkable season with us in this part of Middlesex Co., for we have had very few real heavy showers of rain since the snow went away, but taking it on the whole, there will be a very good crop of most things except fall apples, of which there will be very few shipped this year; small fruits also were a shorter crop than usual.

I do not like the dewberry as well as the blackberry, for it is much harder to attend to and cultivate. I have been testing some gooseberries this year. The Industry mildewed the most; then Crown Bob a little, while Whitesmith was as free from it as the Houten Seedling. Some seedlings of it that I have grown now for some time are doing real well. I had two black currant seedlings fruit for the first time this year, and although the season was extremely dry, they were splendid and promise well. One of my roses played a strange prank in the way of flowering. It was a White Perpetual Moss, and always gave pure white flowers until this season, when it sent up a fresh sprout from the root upon which grew both white and bright rose and light pink flowers at the same time, and some flowers were one half rose coloured and the other half pure white. Have you ever heard of such a freak of nature? I have had some seedling roses bloom this season for the first time, among which was a White Scotch, perfectly double and a very early bloomer. I have some more that I expect will bloom next summer. I planted some of Bliss's Hybridized Potato seed this spring, and now some of the young plants are in bloom and have large potatoes under them already.—J. M. W., *Maple Grove, August 15th, 1888.*

[Perhaps the Moss Rose had been budded on other stock, from which the fresh shoot sprung.—ED.]

U. S. Apple Crop Prospect for the Fall and Winter of 1888.

APPLES in the Middle and the Eastern States will average only a light crop, especially Greenings, not over 65 per cent., excepting in lake counties of New York State, where *Baldwins* promise a very fine yield; but these generally go to New York city for exporting. Pa. and Conn. don't promise enough for home use.

In Ohio and Mich. and westward the crop is scattering; good in spots, but in many places very light, running one third ($\frac{1}{3}$) to two thirds ($\frac{2}{3}$) a full crop in some sections—probably averaging half ($\frac{1}{2}$) a crop in the western apple States and of uncertain quality. Michigan promises very few Greenings. Pears and plums are a lighter crop than usual in the Atlantic States.

Our *fruit market outlook* is therefore *favourable*. PANCOAST & GRIFFITHS, *Phila., Aug. 31st, 1888.*

The European Apple Crop.

DEAR SIR,—I am in due receipt of your favour of the 4th inst. I have posted you my circular report.

There will be nothing to report to be of any practical use to the Canadian fruit growers this month; our season is always later than the other shipping ports in this country:—

(1) Because we are in the midst of the best apple growing districts.

(2) Our wants are well looked after by our continental neighbours, who are pouring in their product as it ripens, but which this season will not last so long as in the past, owing to the shortness of the crop, as well as the failure of it in some parts; hence we may look for a commencement of the Colonial fruit season about the middle of September, and only good eating or large cooking apples, but no common nit, will do for early shipments; good King apples and Northern Spy will do in October and later.

CIRCULAR REPORT.

In accordance with my usual custom, I have the pleasure of submitting to you my reports regarding the prospects of the "Apple Crop" in the most important European Centres from which London often draws very large supplies :—

France.—The northern sections report indifferent crops, except for "Cider Fruit." Southern sections, above an average, especially for hose kinds generally forwarded to England.

Germany.—My correspondents from the best known districts appear almost unanimous in reporting that there will be almost no apples for export.

Belgium.—The reports are more varied; some districts show a fair average crop, but taking the average yield of past seasons with the probable estimate for this, a limited supply of the best kinds suitable for the English markets can only be reckoned upon.

Holland.—Will have a fair average crop, but chiefly of inferior kinds, the better class fruit being a comparative failure.

England.—In the principal apple districts a very early blight set in which practically destroyed our prospects; the home supplies are therefore reported to be the shortest on record.

The conclusion to be drawn from the above is, that a much earlier demand must set in, and that London will require a share of the early foreign shipments of prime fruit, although perhaps not to the extent of Liverpool and Glasgow during the first month, but later London will require supplies far exceeding the average of previous years.—J. B. THOMAS, *Covent Garden Market, London. 17th August, 1888.*

Fruit in Ontario.

The dry season has not been without its effect upon orchard and garden. Although summer apples are rather small in size, fall and winter sorts will likely be well up to the average in size as well as quality. The borer and codlin moth have appeared in a few places, and occasional complaint is made of wormy apples, but the crop generally will be a good one. The pear blight is reported in portions of Kent, but the general yield will be an ordinary one. Stone fruits are all light in yield. Only a few correspondents in Lincoln speak hopefully of the peach; the majority report the crop as a failure. Plums and cherries are being steadily destroyed by the black knot, and where the plum has escaped that enemy it has been weakened by the curculio. In some of the Lake Erie counties, however the cherry is reported as having yielded a big crop of large fruit. In the grape growing counties a magnificent yield is anticipated, but in Oxford and Brant the rose bug attacked the vines as the grapes were budding and wrought much injury. Other small garden fruits have been about an average, except strawberries, which were hurt by the drouth of last summer and fall. In the County of Grey, where the huckleberry is regarded as a standard fruit, the crop is light.—*Bulletin for Aug., Bureau of Industries.*

REVIEW.

Transactions of the American Horticultural Society, Vol. v., 1888, W. H. Ragan, Greencastle, Indiana, Secretary. 350 pages, bound in cloth.

This volume embraces a report of the 8th Annual Meeting held at San Jose, Cal., Jan. 24, 25, and 26, and at Riverside, Cal., Feb. 7, 8, and 9, 1888, together with a full list of papers read, with accompanying discussions, also a sketch of the overland trip by John Clark Ridpath, L.L.D. It is free to members, the fee being $2.00 per annum.

Eighth Annual Report of the New Jersey Agricultural Experiment Station for the year 1887. Geo. H. Cook, New Brunswick, N. J., Director. A report of the results of analysis of various commercial fertilizers, and the Sorghum Sugar industry.

Proceedings at the Thirteenth Annual Meeting of the American Association of Nurserymen, held at Detroit, 1888. C. A. Green, Rochester, N. Y.

This volume is got up in an attractive style, and contains many papers of great interest to nurserymen. We would advise all our Canadian nurserymen to unite with this Association and attend its meetings. The objects are relaxation, acquaintanceship, exhibition of fruits, plants, etc., and exchange and sale of stock, and the member's fee is $2.00 per annum.

Prize List Central Canada Exhibition Association, Ottawa, Sept. 24 to 29, 1888. R. C. W. MacCuaig, 39.

American Pomological Society. The next meeting will take place at Sanford, Orange Co., Florida, beginning Feb. 6, 1889. We hope some Canadian representatives may be in attendance.

Thirteenth Annual Report of the Montreal Horticultural Society. 1887-88. 123 pp. Secretary, W. W. Dunlop. P. O. box 1145. Montreal.

T. C. Robinson's Catalogue and Price List, 1888. Owen Sound, Ont.

BIGNONIA.

FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 10.

THE TRUMPET CREEPER.

FOR the more favored portions of Ontario the Trumpet Creeper is one of the most desirable of climbing vines. We have tested it at Grimsby for twenty-five years, and although while young the fresh growth was killed back so that it appeared to make very little progress, yet every year the main stem gathered strength until at length it became a thing of beauty upon the lawn. In one retired nook, several of these vines have sprung up without care, and twined themselves about the trunk of a Norway spruce tree to the very top, some twenty-five or thirty feet, and a more interesting and attractive plan could not have been devised. The little graceful shoots clothed with pinnate leaves, so beautifully contrast with the stiff background of spruce foliage; and the great showy trumpet-shaped flowers, borne in terminal corymbs on the young shoots in August, delight one the more because quite unexpected in such a situation. Another beautiful specimen almost conceals one end of a neighboring stone house; and, climbing by its tiny rootlets, has even surmounted the roof, and almost hidden the great stone chimney which it decks with its scarlet trumpets.

The variety referred to is known as Tecoma radicans, according to Gray, although nurserymen have propagated and sold it under the name of Bignonia, a name now confined by botanists to another species of woody climber, belonging to the Bignonia family. It may also be interesting to notice that the Catalpa, so much prized of late as an ornamental tree, is another species of this same family. For the most part the Bignonias are tropical plants,

and will not succeed in Canada, but with a little protection little difficulty need be experienced by any one with the Tecoma radicans, T. atrosanguinea, or T. grandiflora. These varieties differ little except in the shade of color of their flowers, and it will be observed that our painting for this number represents the latter of the three.

The Trumpet flower is found growing wild as far north as Pennsylvania, and in some of the Southern States it may be found climbing to the tops of the loftiest trees, clothing them with wreaths of green, red and orange. The tubes of the flowers are usually three or four inches in length, and sometimes five or six inches.

In 1640, this climber was introduced into England, and it is there highly esteemed.

FRUIT PACKING.

THE packing table described in September number is being used in our apple orchards with the greatest satisfaction. By means of it one man can pack for three pickers, and that with the greatest comfort. We would not again return to the old custom of emptying out all the fruit upon the ground and then gathering it all up again; it is too troublesome and expensive at the prices for which apples are usually sold. We have instructed the packer to make three classes of fall apples; No. 1 includes the perfect samples, free from spots, worms, knots, etc.; while No. 2 includes good cooking apples, but imperfect, and No. 3 those which are fit only for cider. No. 1 goes to a foreign market, No. 2 to a home market, and No. 3 is thrown upon the ground, to be utilized at the close of the season.

Of such choice winter varieties as King and Northern Spy we purpose making an additional class of "*extra selected*," for which the largest, finest, and best colored of the No. 1's will be selected, and packed in half-barrels.

Our first shipment for the British market was made on Thursday, the 13th ult., and shipments will continue weekly till the end of the season.

We will report results for the benefit of our fellow fruit growers, and hope to have something favorable to say concerning the "cold blast" and the "port ventilation" provided for us by the Beaver Line. By reading the market reports it will be seen that the prospects for an export trade in apples are favorable this season, and therefore, notwithstanding the very heavy Canadian crop, growers may expect good prices for all prime apples fit for export. The great point to be observed is to pack honestly, so that the grade represented shall be faithfully preserved through and through each barrel. It seems too much to expect that all packers will be uniformly honest, and thus establish a national reputation, but each large grower and shipper can do this for himself if he chooses, and so establish a personal reputation that will be of the greatest possible advan-

tage to him, whether in a home or a foreign market. The practice of branding the head with the name and address of the grower, is a proper thing, and that which every honest man will willingly do.

While packing our apples and pears this season we are more than ever convinced of the great benefit of spraying our orchard with Paris green. In some portions inaccessible to the wagon, this treatment was neglected, and as a result, an immense crop of Codling moths is being harvested, and innumerable apples wasted; while those trees carefully treated are almost free from this mischief-maker. And that is not the only benefit; indeed, quite as important is the perfection of form of the sprayed fruit. A Duchess apple tree always bore knotty fruit previously, but since being treated to Paris green its fruit has been perfect. The Bartlett pear is especially subject to produce knotty specimens, due to the work of the curculio, and other insects. Indeed, fully half the crop has to be thrown out for seconds on this account. But for two seasons now, we have sprayed them carefully, and as a result, have had comparatively few knotty pears. The editor of *The Country Gentleman*, in a recent number, gives his experience in spraying Bartlett pears, and it corresponds with our own as given above. We copy outlines of two specimens, showing the effect of the treatment as described above, but with us the disfigurement has averaged greater than is here represented.

FIG. 75.—SPRAYED BARTLETT, ⅔ NATURAL DIAMETER.

FIG. 76.—UNSPRAYED BARTLETT, ⅔ NATURAL DIAMETER

A LIST OF HARDY APPLES FOR THE COLD NORTH.

WE frequently receive enquiries concerning the most reliable varieties of apples for the colder portions of Ontario and Quebec. Having experience chiefly with such varieties as are adapted to Southern Ontario, we have to depend upon the experience of others with regard to those best suited to the Northern portions. Such kinds as the Baldwin, Greening and Northern Spy, which we grow for the export trade, would be wholly unfitted to withstand the severe winters of those parts, and therefore others, possibly less valuable in our markets, must be substituted. Indeed it is a great boon to farmers residing in localities where orcharding was previously regarded as wholly out of the question, to find that there are apples, of fine quality and appearance too, which may be successfully grown. Some of these apples have been introduced from Europe, and some have originated in the Western States.

For the benefit of our members so situated as to be interested, we give a list of the best apples for the extreme north, prepared by Dr. Hoskins, of Vermont, who has given years of patient study and experiment to this particular branch of pomology.

For summer.—Yellow Transparent, Tetofsky.

For autumn.—Duchess of Oldenburgh, Alexander, McMahon's White, St. Lawrence, Switzer.

For winter.—Wealthy, Scott's Winter, McIntosh Red, Fameuse, Bethel of Vermont.

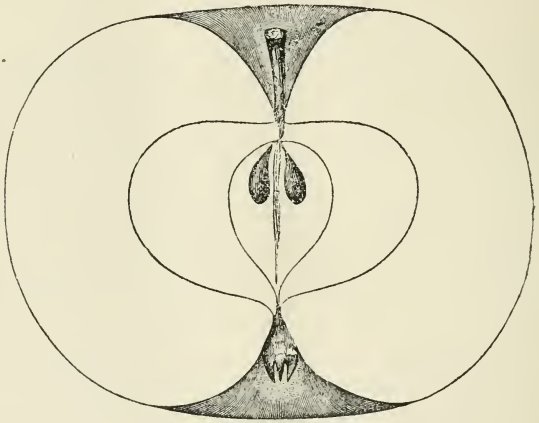


FIG. 77.—McMAHON'S WHITE.

Many of these varieties have been tested in Canada and reported upon through these pages. In January, 1887, a colored plate of the Yellow Transparent was given our readers, and the previous year the tree was included in our plant distribution for general testing. A large number of trees have been top grafted with it and other Russians at Maplehurst, and this year the first specimen of the Transparent was produced. It was in

quality and waxen lustre, everything claimed for it.

The Duchess of Oldenburg has established its reputation for excellence in all parts of Ontario. There is no more beautiful apple in its season, and it is deservedly popular both for home use and for market; indeed, no apple except the Red Astracan can compete with it as a fancy apple, in Toronto and Montreal markets, and even that, beautiful as it is when fully colored, must yield the palm to it.

McMahon's White is a new variety from Wisconsin, very similar to the Golden White, No. 978, of the "Department Russians." At the meeting of the American Pomological Society at Boston, in 1887, Mr. Hatch, of Wisconsin, spoke highly of it, saying, "It has stood the temperature of 40° below zero; nothing in my orchard has equalled it in this respect. For severe climates it stands head and shoulders above every other apple. It may, however, blight in extremely rich soil; but in other soils it does excellently." Dr. Hoskins says it is the first out of many apples which he has received from Wisconsin which has sustained its reputation for thorough hardiness. He describes the apple as large, well-shaped, greenish white, occasionally red-cheeked, and is an excellent market fruit for culinary use. It bears young, and is vigorous and healthy in tree.

THE JAPAN IVY (AMPELOPSIS VEITCHII.)

By D. W. Beadle, St. Catharines, Ont.

I WISH that your readers could visit some of the cities where this beautiful climber has been planted long enough to cover the walls, and in sufficient quantity to be one of the features of the place. The engraving will help them to some conception of its charming effect, but neither engraving or description will be able to impart any adequate impression of the exquisite grace which this plant imparts to the various objects over and around which it clambers. One needs to see the great walls covered with its bright leaves, which overlap each other like the tiles on a roof; to see the turrets wrapped in its green folds, and the windows wreathed in its shining foliage, to be able to appreciate its beauty.

Ivy-clad walls and battlements form some of the most charming pictures in the old country landscapes. Unfortunately the ivy-green of England can but poorly battle with the extremes of our rude winters, but the Japan Ivy, with the same power of clinging to the surface as its old-world cousin, by dropping its foliage when severe winter frosts set in, passes safely through our colder winters. Not suddenly, on the first approach of frost, do the leaves fall, but the dying foliage puts on gorgeous hues and glorious tints, imbuing each passing day with some new colour;

> "Each purple peak, each flinty spire,
> Is bathed in floods of living fire."

Could they but realize the charm which this little climber gives to the home, how it relieves the monotony of bare walls, and as it clambers over things that were else unsightly, gives to the whole a nameless grace, they would surely plant it freely. Were it rare and costly they might feel that its loveliness was beyond their reach, but, on the contrary, it is easily procured, and comparatively inexpensive.

When young it needs some care, like all things else in early youth. One does not hesitate to bestow care upon young stock, nor feel it a burden to care tenderly for the young "olive plants round about the table." So then, in the early youth of the Japan Ivy, do not suffer

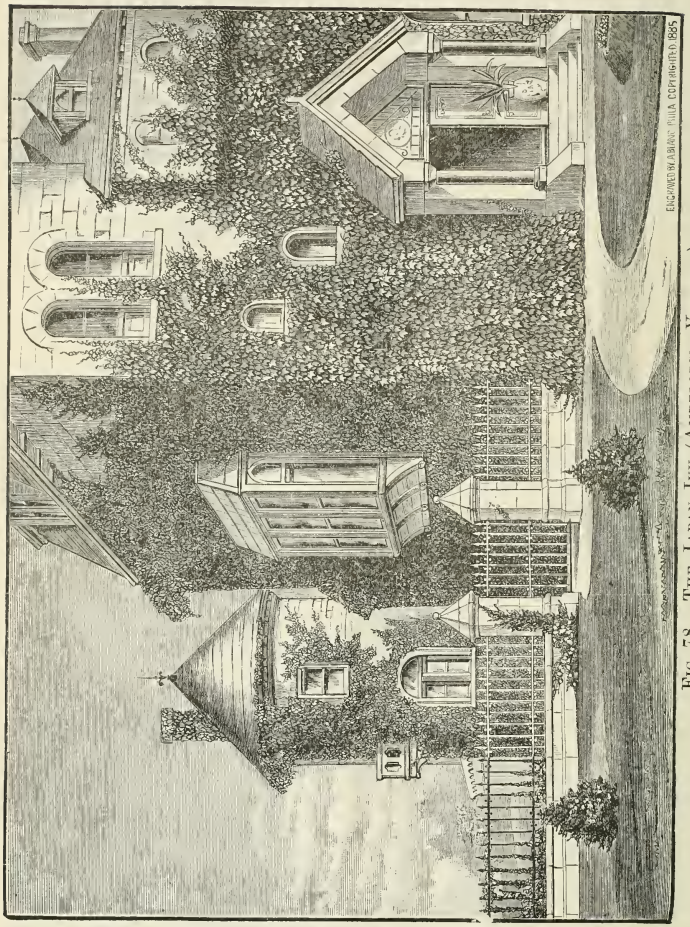


FIG. 78.—THE JAPAN IVY (AMPELOPSIS VEITCHII).

it to be choked with weeds or grass, nor its growth to be stunted through lack of nourishment; and during the first winter throw a few inches of coarse litter about the stem and over the roots. This care will be abundantly rewarded by its vigorous growth the following season, and soon it will clamber away, on and up, never losing its foliage near the ground, but by its continual growth maintaining a pleasing variety of shades of colour between the young leaves and those more mature until the chill nights of autumn change the green to crimson and gold.

HORTICULTURAL NOTES.

By J. L. Budd, Iowa Agricultural College.

THE September number suggests the following notes:

RUSSIAN WINTER APPLES.

Dr. Hoskin's note, on page 198, has this closing sentence:—"So far, however, very late keepers are very scarce."

This is true, when the large number of varieties from west and north Russia is considered. But our collection from the interior provinces of central and south Russia is showing a very large per cent. of varieties, later than Wealthy or Grimes, Golden, and a few varieties as late as Willow or Scott's Winter. From the varieties started in orchard prior to our visit to Russia in 1882, we have now on our table the following varieties, which are harder and cruder than Wealthy, Grimes, Golden or Jonathan, viz., 4 m., 5 m., 8 m., 15 m., 24 m., 30 m,, 42 m., 57 m., 75 m., 89 m,, 105, 190, 224, 236, 240, 316, 324, 327, 410, 413, 424, 585 and 599. Of this partial chance list now before me, 5 m., 8 m.. 15 m., 89 m., 316, 410 and 599, are incomplete in growth the middle of September, as the Willow, and with the same care should keep about as well.

If we should tell the story of the few specimens as yet grown in the state of the varieties more recently imported from Arel, Voronesh, and other points in South Russia, we could make a much better showing as to per cent. of late sorts, and the size, beauty, and quality of the fruits.

My only surprise has been that some of the extreme northern varieties should mature so late on the 42nd parallel. For instance, the Striped Anis of the Upper Volga is now laden with fruit fully as hard and crude as the Wealthy beside it. Again, the Striped Winter of North Russia, is proving a showy and profitable fall apple here, and a prime winter apple on the 44th parallel.

TRANSPARENT FAMILY.

In connection with the belief expressed by Dr. Hoskins that the Yellow Transparent will prove a short-lived tree, permit me to say a good word for the *Blushed Calville*, another member of the family. (1) It is ready for home use or market as early as the Transparent or Thaler, but its season is longer as it does not become dry and mealy when over-ripe. (2) Its blushed cheeks make it attractive in market, and the quality of the fruit for dessert or cooking is better than that of any member of the family I have tested. (3) In no case have I known the tree ts be attacked with blight, its stem to be sun-scalded, or its cell structure injured by our test winters.

This is exceptional praise, but so far the Blushed Calville seems without faults at the west, even where the Yellow Transparent utterly fails by blight or winter killing.

CERISE DE OSTHEIM CHERRY.

There appears to be some confusion in the use of the name "Ostheim."

The Ostheim we first sent out for trial was the Ostheim of Minnesota, introduced from Germany. This we soon found was not identical with the Ostheim of Kansas and Missouri, and still later we found that neither of the above was identical with the Cerise de Ostheim we imported from Poland and North Silesia.

The Minnesota variety we have found to mature its fruit very late, and to be smaller than Early Richmond.

The Kansas and Missouri variety is earlier, larger and better in fruit; but the tree is not hardier than Montmorency Ordinaire. The Cerise de Ostheim of Poland we find hardy in tree, round-topped and even drooping in habit, early in coming into bearing, and fully equal to the Missouri variety in earliness, size and quality of the fruit.

FRUIT EVAPORATING.

Points from an Expert.

Fruit evaporating is a business requiring careful study and experience to be successful, as I have found after a number of years of faithful study. Our grafted varieties of apples yield from six to eight pounds of the evaporated fruit to each bushel of fifty pounds of green apples, according to the care and management the fruit gets during its preparation and drying. The best paring machines are none too good, and until 1886 there was not a worthy one to be had. But now several very practical machines are in use. I prefer machines that pare, core and slice at the same time, though I used to think a separate slicer necessary to get the greatest production. But I can now get eight pounds to the bushel by the use of the combined Taylor machine. Two girls with this machine can prepare thirty bushels of apples in ten hours, and they work for sixty cents per day each. To save fruit, paring machines must have the best of care. The knife guards, knives and coring tubes should always be ready for exchange, and a machine without interchangeable parts is practically worthless.

A popular sentiment is rising against the use of so much sulphur in bleaching fruit. I am glad to see it, but bleaching of some kind will be followed for some time yet. Apples and peaches should be introduced to the bleach as soon as pared, as after that a good color cannot be had, as they turn red by delay. A good way to preserve the fruit for the bleacher is to run it, as soon as pared, into a vat filled with water made brackish with salt, being careful not to add too much salt, as then the fruit, when dried, would gather moisture and damage its marketing quality.

Spread the fruit for drying on trays made of No. 5 galvanized wire cloth. I prefer steam heat for drying, because by it much more work can be done by one fire than by the furnace system, and insurance rates are lower. Care must be taken not to leave the fruit in the evaporator so long as to turn it brown. I take out the fruit rather early and spread it about ten inches deep on a curing floor, where it lies for ten days or two weeks, and is shoveled over once or twice before packing. In this way one can take fruit from the dryer while it is still quite damp, saving fuel and increasing the working capacity of the machine. We also ger a more marketable quality of fruit, fot the color while it is still quite damp, saving fuel and increasing the working capacity of the machine. We also get a more marketable quality of fruit, for the color will be better. But I am not advising packing fruit before it is thoroughly dried, which is bound to cause shrinkage; and so much of this has been done (especially on bleached fruit,

that will keep in quite a damp condition) that commission merchants have got into a notion that all packages of evaporated fruits must be docked for shrinkage.

No machine is yet made that will do good work on peaches ripe enough to be of rich flavor, so they must be prepared by hand. They must be bleached like apples and spread on trays with the flat side next the wire, to keep the peaches in nice shape. Peaches are packed in twenty-five pound boxes, and a nice facing is laid next the cover. Considerable care is necessary in drying blackberries and black raspberries, particularly to see that they don't dry too much. I hardly dry them enough, but spread them in my curing room, six inches deep, and shovel them over a few times until they are thoroughly dried; four pounds of the black raspberries will make one pound of dried fruit, and a bushel of peaches will produce eight to ten pounds of the dried article.

Evaporated apples in ring slices are packed for Eastern markets in boxes holding fifty pounds. Two pieces of paper are placed in the boxes next the cover and laid so that they will fold back each way from the centre, lapping down on the side of the box, and then the ring slices are laid in rows on the paper with one half lapping so as to make a nice facing; then the box is filled from the bottom, and if the fruit is thoroughly dried a press is necessary to get fifty pounds into the boxes commonly used.

So much depends upon proper management and experience, that it is difficult to give accurate estimates about the business. One may make a failure out of the same run that another would turn to a profit. But I will make two estimates. The first is on a business of drying three-hundred bushels of apples per day of twenty-four hours, reckoning at the low rates we may expect for this season, as the crop is general:

300 Bushels of apples at ten cents per bushel	$30.00
28 Girls to run the paring machines, at sixty cents per day	16.80
2 Men to handle apples, at $1.25 per day	2.50
2 Men to attend the evaporator, at $1.25	2.50
2 Boys to attend the bleaching, at seventy-five cents	1.50
2 Men to attend to the fires	2.50
Fuel	4.50
Incidental expenses	5.00
Total expenses	64.50
Credit by 1800 lbs. dried fruit at six cents per lb.	108.00
Net profit per day	$33.70

On an evaporator of seventy-five bushels' capacity in twenty-four hours, such as the large fruit grower wants who handles his own crop, the showing should be like this:

75 Bushels of apples at ten cents	$7.50
5 Girls day and evening at seventy-five cents	3.75
2 Men at $1.25	2.50
Fuel and incidental expenses	4.00
Total expenses	17.75
Credit by 450 lbs. dried fruit at six cents	27.00
Net profit per day	$9.25

These figures allow only six pounds of dried fruit to the bushel of green apples, whereas good management may increase the proportion. The estimates for labor are very close, but from these two statements, fruit growers can readily figure out whether they can make any money in evaporating or not. My statements are made on the supposition that the whole business is managed closely, and that apples are not allowed to rot or machines to take care of themselves; nor have I allowed for the waste. Drying waste does not pay at the present prices. But if you use steam, you can make the waste into vinegar stock worth about $3 a barrel, if the buyer furnishes the barrels. After the pomace has lain about six days, it can be pressed again, and gives about a quarter as much juice as at first, after which the pomace may be burned for fuel in any boiler furnace with a good draft, especially if a little coal or wood is added.

I do not think the many little cook-stove evaporating devices can be recommended at the present prices, as sun-dried fruit can be prepared quite as rapidly and brings very nearly as much as evaporated. Well-organized evaporating houses are the only reliable means of gaining a profit at this business, and one must be very sure of being right before going ahead. Our Western New York markets are now offering six cents per pound for evaporated apples of prime quality, at the evaporator, in sacks furnished by the buyer. This is as good as eight cents in New York City, as there is no packing freights or commission.—S. W. Lovell, *New York, in Am. Agriculturist.*

How and What to Evaporate.

In any process of evaporation the great desideratum, says the *American Garden*, is the application of intense heat in the first stage of drying, except in the case of grapes and similar fruits, where extreme heat will burst the skin and allow the juice to flow out—as the great heat will, by affecting the outer surface of the substance, form an impenetrable external coating, thus retaining the flavor and other desirable qualities of the fruit.

The best arrangement is to subject the material to a continuous current of hot air. This current cannot be made hot enough to scorch or burn the fruit, if it be kept in brisk motion; but let it become stagnant for a short time and the product will undoubtedly be ruined by the intense heat.

Raspberries we have found to be very profitable, as three quarts of the fresh fruit yield one pound of the evaporated, and this has a ready sale at a paying price. So, in case the market price for fresh berries is down, it is an easy matter to put them in such a shape that we can command better figures.

Corn, properly evaporated, makes a dish fully equal to that just cut from the cob, at a cost of about fifteen cents per pound. Half a pound is sufficient for a family meal.

Pumpkins also make a good article, when evaporated,—fully equal to fresh ones for making pies, thus extending the pie season through the entire year.

Many other fruits and vegetables, which can readily be dried, have not taken a place in the market, or are not known in this condition to commerce. Among these are dried sweet potatoes, which those who have tried them like very much. When thus preserved, they are safe from frost or other contingency, and, although not in condition for being baked, are excellent for stewing.

How to Sulphur Fruit.

Concerning the use of sulphur in bleaching fruit the following information, from the *California Fruit Grower* is of interest.

The sulphuring box or closet must be tight jointed all around, with the door well battened at sides, top and bottom, the only opening being a vent hole about six inches in diameter in centre of the roof. Without the vent there is no current of air, and consequently no even distribution of the sulphur fumes. A slide to regulate the draft should be set in the vent hole. The width and depth of the sulphuring box should be adapted to the size of the trays in use in the drying field. For height, eight feet is as great as can be worked conveniently.

Burn the sulphur outside the box in a charcoal stove, such as is used for heating flat-irons, covering the top of the stove with a sheet-iron hood tapering to about four inches in diameter, where a pipe of four feet length can be slipped on and off. This pipe should lead into the bottom of the sulphur box at the centre, where the fumes will be delivered at proper temperature to save scorching the lower trays of fruit. The hood should have a door to take the sulphur pan in and out. To ensure

a good draft from the stove through the sulphur box, the stove should be set below the level of the box, and if the pipe trends upwards the draft will be increased proportionally.

For sulphuring, the fruit contained in a box 8 feet high by 3½ feet square, two heaping tablespoonsful of powdered sulphur sprinkled upon a live coal and burned on a pan set in the stove, with lower draft open and hood door closed, is sufficient. Good results have been obtained from burning a mixture of two-thirds powdered sulphur, and one-third powdered charcoal. From twenty to thirty minutes is as long as fruit could remain exposed to the sulphur fumes to avoid deposit of metallic sulphur, and yet produce bleaching effect. Practice will train the eye to this, keeping in mind that the greener the fruit, the longer the exposure that is necessary.

Where large drying operations are in progress, a row of three sulphuring boxes can be served from one stove, operating them successively and having pipes made with sheet iron caps to cut off the communication with all but the one box which is being sulphured. Caps are better than dampers, as they entirely cut off the connections, although involving the slight trouble of unjointing the pipe to put the caps on.

Sulphuring preserves for a long time the bright, rich color of Apricots and Peaches, and the whiteness of Apples and Pears, and, when practiced as above described, not only imparts no bad flavor to the fruit, but actually enchances it by preventing fermentation; on the other hand, over-sulphured fruit, however beautiful, retains the sulphur taste to an offensive degree, proportioned to the extent of the over-sulphuring.

CIDER AND VINEGAR MAKING.

THE demand now is for a sweet beverage retaining the flavor of the fruit and beneficial to health. It is necessary then to keep cider sweet, and to do this, sound, ripe fruit is a necessity, for it is impossible to make first-class cider out of poor fruit.

The apples must be reduced to a fine pulp and pressed through cloths which retain all the pomace. The product then, after filtering, is ready to be stored in the cellar in barrels scrupulously clean; to sum up, good cider depends upon sound, ripe fruit, clean handling, clean packages and the best machinery.

Fermentation. Before taking up the process of preserving cider in its sweet state, let us consider the cause of fermentation. According to the germ theory of fermentation, certain microscopic spores that exist in the air, come into contact with the cider at the very first step of its manufacture, it rots and the cider undergoes fermentation. Now in the case of using rotten Apples, which being filled with these organisms that have already induced decay in fruit, it is folly to grind them up with sound fruit and expect the product to remain sweet. These spores excluded in the rotten fruit, we find it easier to control the dormant spores that are in the cider. The racks and cloths, if sour, contain these active spores, and hence the necessity of steam or boiling water to destroy them, keeping the utensils entirely sweet and pure.

Fermenting spores apparently are much more numerous during those days described as "muggy"—close or sultry. On such days as these cider will ferment sometimes before it leaves the press. Clear days, therefore, together with cool temperature, are best for successful cider making. Hence,

we should plant varieties of fruit that can be made into cider late in autumn, or early winter; cider made in winter keeps sweet better than that made in early autumn.

Keeping Cider Sweet. The best and only method of preventing fermentation in early-made cider is by heating to 175° Fahr., and placing in an air-tight package and sealing up while hot, following the usual method of canning fruit. Cider put up by this process I have kept through the second summer, as sweet as when it ran from the press. The objection to this method is that it changes to some extent the flavor of the cider, and when opened for use it ferments just as does canned fruit. A method of preserving late-made cider is to add some antiseptic, advertised in the cider journals, which has, as its active ingredient either sulphur or salicylic acid, the latter being the most used. One ounce of the acid to thirty-two gallons of cider being the rule; the quantity being so small as not to be detected, and not injuring it for vinegar making.

Vinegar Making. One after another method was laid aside as useless or inexpedient, and I have gone back to barrel manufacture, but have decreased the length of time over the old process in a very simple manner. The cider for vinegar made and barreled, the barrels are elevated into an upper story, and on the approach of winter one-third of the contents of each barrel is removed and placed in other casks, leaving the barrels two-thirds full. Then I leave the barrels and allow the frost to do its work, with no danger of bursting, as there is room for expansion.

In the spring, when thawed out, the barrels are rolled over in order that the contents may again be intermingled, and then allowed to stand. By May or June, almost every barrel so treated is excellent vinegar, while if they had been placed in the cellar over winter, many barrels would not become vinegar within two years. Do not, however, leave vinegar already made exposed to the frost. One object in having the vinegar in an upper story is to escape that pest of the vinegar-maker, the barrel worm.—H. M. Dunlap, *before the Central Illinois Horticultural Society.*

THE EARLY PURITAN POTATO.

By S. F. Selleck, Morrisburg.

SIR—You wished me to write you in regard to the Early Puritan Potato. I purchased a peck from Messrs. Henderson & Co., this spring, and planted one half of them giving the rest away to some of my friends. They are an oval potato in shape, white, and you can hardly notice any of the eyes. I cooked some when not quite ripe and found them much better than either Early Rose, Bliss' Triumph or Vicks' Extra Early. They came in blow five days earlier than Early Rose, and one week earlier than Bliss' Triumph or Vicks' Extra Early, and ripened about the same time ahead of them all. The stalks stand very straight and firm when green and do not fall over until quite ripe. I planted them on May 10, and on August 10, they were ripe. This season has been a very hard one here, especially on early potatoes, as just the time the potatoes were setting we had a dry spell and, in consequence, potatoes are not much over half a crop, that is, early ones. The late potatoes are looking nice and green yet, and as we have had plenty of rain lately why they may do better. I planted Early Rose, Vicks'

Extra Early, Bliss' Triumph and Early Puritan, side by side, in my garden. The yield from nine hills of each, dug on August 27, was as follows—the potatoes in each case being cut into single eyes, and two pieces put into each hill: Vicks' Extra Early, nine hills, ten pounds two ounces; Bliss' Triumph, nine hills, fourteen pounds six ounces; Early Rose, nine hills, sixteen pounds six ounces; Early Puritan, nine hills, twenty-four pounds. The ground was not fitted up in any way extra. The only thing, I put a little salt and ashes in each hill, not with the seed, but after a little earth had been hauled on to the seed. I am very much pleased with the Puritan and think it will pay any one to get the same as soon as they can. I have not had time to weigh up the net amount of potatoes from the half peck yet, but I intend doing so and will let you know in another number. If there are any of the readers of the HORTICULTURIST, who would like to know anything more about this potato I will be pleased to answer any questions, through the columns of the HORTICULTURIST. I am going to plant all I raised, next season, and plant no other potato. I had one drill each of Puritan and Rose side by side—the potatoes in each case being cut to single eyes and put in ten inches apart in the drill. The drill was made six inches deep, the seed partly covered and a little salt and ashes put on the ground on top of the seed, then more ground hauled in. The yield from thirty feet of drill was: Puritan, thirty pounds two ounces; Early Rose, twenty-one pounds seven ounces. My soil is a heavy clay loam, but next season I am going to plant in a piece of sandy loam and see how they will turn out. The potatoes, Puritan, are much larger than the Early Rose and the eyes are not nearly so deep. I can give you an account of their keeping qualities near spring, and will cook some about the middle of March or April and report on them again. I think by this time your readers will say, let up on the Puritan potato and give us something new. I will do so and begin with a novelty in the tomato line called Tree Tomato. I sowed the seed in a box in the house about the first week in April. When about three inches high, transplanted it into the garden and at the time of writing one of the plants (of which I had three out of a package of seed) has one tomato on, wrinkled, and about one and a half inches across. If they do no better other places than here I would say, don't squander any money on Tree Tomato seed. I have grown this season for the first the Cinnamon Vine and am delighted with it. It has made about twelve feet of growth and is a very pretty climber.

MISCELLANY.

Fraudulent Apple Dealers.

A Montreal gentleman now on a trip to England, writes to the Montreal *Witness*: I would hardly have been induced to send you even a few lines so early but for one reason, one which I feel is of some importance to at least one interest in Canada—the exportation of fruit. I am not at liberty to give the name of my informant, but the facts can be implicitly relied upon. The importations to Liverpool, by the several lines of steamers, of Canadian apples, is fast becoming one of the big booms, because for some time honesty was down to the bottom of each barrel, but last year some of the Canadian growers caught the Yankee infection, and thousands of barrels, when opened on the dock or on the market, were

found to contain one layer of fine picked fruit on top and rubbish or rottenness beneath! No doubt our Montreal exporters were cheated too. It is not the custom of Montreal merchants to do such business. It is done in the orchards, and I would suggest a thorough inspection of the fruit, and the imposition of some punishment, if possible, for such fraud. My informant says he saw buyers, who were twice caught, insisting upon the Liverpool dealer turning out the apples, and on many occasions not one barrel was found to contain anything like the fruit bargained for by the purchaser, except in one deceptive layer on top. It will ruin the Canadian trade in apples if it occurs once more."

Our President's Trip West.

Mr. A. McD. Allan, President of the Ontario Fruit Growers' Association, is on his way to Manitoba, the Northwest, and British Columbia to make observations with regard to fruit-growing in our western possessions and to judge and report on its capabilities. Mr. Allan is an experienced horticulturist and acted as fruit commissioner at the Colonial Exhibition in London. He says from what he has heard he has great faith in the capabilities of our Northwest as a fruit-growing country, and thinks that good might come of engrafting the wild fruits of the prairies with our tame varieties in Eastern Canada. He will stay over at Winnipeg and all the prominent places in the Territories to gather data and collect specimens of shrubbery, the forest and flora indigenous to the country, paying particular attention to the water courses. From thence he will proceed to British Columbia, and may probably visit California and make comparisons. Mr. Allan expects to be away four or five months. He is not on a government mission, but is going personally as one interested in the fruit industry of the Dominion for, if possible, more enlarged information. He has hopes that his mission will be able to supply information that will be valuable to all fruit-growers, in Ontario as well as in the Territories. Mr. Allan will study the soil, the climate, and all that pertains to the capabilities of the Northwest and British Columbia.—*Globe.*

Healthfulness of the Grape.

"The quantity of sound grapes." says Dr. Irving, "one may eat with impunity is something astonishing. Persons at the Continental Grape cures consume from six to twelve pounds daily. Grapes constitute a perfect nutriment which includes in remarkable proportions the nitrogenous albuminoid and respiratory principles indispensable to a good alimentation. According to the analysis of a French chemist, a striking analogy exists between the juice of the grape and woman's milk. Some of the affections which the grape may be used for, as a reparative medicinal agent of great value are those arising from troubles in the digestive function, diseases of the liver, etc. In fact by using the luscious but inoffensive grape, you can re-establish the physiological conditions of clear thoughts and correct expression."

Fruit for Luncheon.

Few people, I find, realize the benefit to be gained from a free use of fruit. Now, I would suggest that the child, rather than the mother, be held responsible for the preparation of the daily lunch, but instead of sending him to the pantry for bread, meat, cake, etc., I would suggest that he be sent down cellar or out into the field for some ripe apples, pears or grapes. A moderate supply of sound, ripe fruit, together with one or two graham gems, make a luncheon far more healthful and appetizing than most of the luncheons that find their way into the baskets of many of our school children.—*Ex.*

FLOWERS

THE CULTIVATION OF THE PANSY (COMBINED).

By Hermann Simmers, Toronto.

IN the August issue of The Horticulturist mention was made of the different modern sections into which the Pansy is classified, also a general outline. In this issue I purpose giving some points as to the best mode of cultivation. I would have liked this to appear in the September, as it would have suited the time of sowing better, but even in the first mention of the subject, some of the general growers will have been reminded of the fact that they should start the seed in August.

Sometimes people leave their old hot-bed frames remaining in the place where they have been started, and I could not suggest a more convenient bed in which to start their seed. After cleaning the weeds and such old plants that may, perhaps, be remaining, you proceed to sow the seed about three-quarters of an inch deep, in rows of four to six inches, or very similar to the way the annuals have been started. Again, with such seeds as have been sown in the hot-bed during Spring, afterwards when the bed has been nicely dampened, you may cover it with hot-bed sashes, allowing a good deal of air during daytime. Keep the bed so covered until the seed has commenced to germinate, then gradually removing the sashes so that the plants may become gradually hardened off. Sometimes the glass is either whitewashed or a canvas cover is tacked over the glass, to keep the intense heat off the young plants. I might here add that the months of July or August would be the best to sow seed so that the plants may be sufficiently strong to stand our extreme cold winters.

After removing the sashes, great care must be used not to do this too quickly, as the plants will burn very quickly; but this may be done by each day gradually lessening the number of hours that you allow the sashes to remain on. When you have successfully accomplished this care, and when the plants have got as far as their fourth, fifth, or sixth leaf, plant out on some cloudy day to any medium shady place in the garden. They may then be said to have arrived at a sufficient stage to stand the winter and allowed to remain there until spring; a very light covering of litter is all that is necessary to protect them during winter, do not put too much on, as it is pretty sure to rot the plants. The period from sowing until transplanting time should not be longer than six weeks. Sometimes it may take longer to develop plants, but not, on an average, with good care. After removing the litter in spring, and having found the plants to have stood the cold, again take up your plants and transplant to the place you would wish them to flower in, when I am certain you will have plants flowering freely the whole summer.

Some people may fancy this is rather a long way to start pansies, but I have plants grown in this way that are flowering just as freely now and almost as large a flower as when they were started in the spring, and the plants are strong and healthy and probably will throw quite a considerable number of flowers next year; try this and you will be more than repaid for your extra trouble. Pansy seed may also be started in the greenhouse or conservatory during the months of January

or February, and grown in boxes similar to other annuals, that is, pricked out after being strong enough, then transplanted to open border in spring; but the plants rarely have the same subsisting power as those have that were planted in the fall. This stands to reason, as the frequent transplanting and the longer growth gives the plant much more time to properly develop itself. A point that was overlooked, and which is valuable to any person wishing to raise large flowers is that by picking off all the flowers, that appear in the fall and allowing the plant to develop, the flowers will be very much larger the following season, and this larger flower will also be more lasting. The Pansy is such a universal favorite and oftentimes people will sow without these precautions being gone into, that they have found sowing pansy seed an unsuccessful pleasure; but follow the plan of sowing in the fall and no person need be dissatisfied with the result. Many amateurs may say we have been so much disappointed by our attempts at growing that we would sooner buy the plants, but right here is where the error lies, for with but a few cents seed can be bought, so many hundred plants may be raised, and so much more pleasure, whereas in buying the plants the expense is so much more, people are checked in growing the quantity they would desire to have.

I trust many will take advantage of the method of growing the seed in the fall, when I feel confident they will be as well repaid in the pleasure in having a larger quantity of this really beautiful flower as I have in endeavoring to be as explicit in the cultural directions.

ROSE GOSSIP.

By F. Mitchell, Innerkip, Ont.

THE present, or lately passed season, has been one of the best that Canadian rose-growers have ever known. The wood of even the most tender kinds of out-door roses came out in the spring uninjured by frost to the very tips of the branches.

The display of bloom in the latter part of June was such as could not be excelled in what are considered as more favorable climates. Since the first profuse blooming the display of bloom has been very meagre. This is, I think, chiefly owing to a disease which is new to this locality, and which first made its appearance about the end of June. Black spots appear upon the leaves, and the affected leaves quickly lose their vitality and drop. At the present time my bushes are denuded of leaves, excepting a few at the top of each branch.

If this disease or blight does not quickly terminate it will seriously affect the preparation of roses from cuttings for this year. Propagation with me has been almost a total failure so far this summer.

As I have before stated, I am becoming very cautious in recommending or denouncing any particular variety of rose. I find that almost every variety succeeds better, (or worse), one season than another. Last season the Baron de Bonstetten was far ahead of any other very dark variety. This season Jean Liabaud eclipsed every other rose of its color. In rose-colored varieties Gabriel Tournier (which last year did not open well) has this season given a profusion of beautiful, perfect blooms, unequalled perhaps by any other variety. Madam Noman among whites has this year not been up to its usual high standard. I will digress here and mention that this variety, (as the Hon. Mrs. Lambert remarks in her very excellent paper in the May number of The Hor-

TICULTURIST) is very difficult to procure. As it is difficult to propagate, and a poor grower, such nurserymen as are not very careful of their reputation, or very sensitive in conscience, generally supply something else nearly of the same color, usually something of the Coquette des Alps type, which is very easily grown.

Her Majesty has bloomed with me this season for the first time. It is a fine, large, bold and very double flower.

Puritan has also bloomed with me. It is not quite as large a rose as I expected to see, but in all other respects exceeded my expectations. It is apparently a valuable addition to our small list of good white roses.

One of the latest arrivals of all, Mrs. John Laing, has bloomed freely with me. It is a thoroughly good, free-blooming rose, somewhat similar to Francois Michelon, though not quite so deep colored. The new tea rose, Meteor, has also bloomed with me. The color is good, but the blooms as yet have been small, and the fragrance not as strong as could be desired.

FORESTRY

THE CLIMATIC RANGE OF TREES.

By Forester.

ONE of my friends, lately removed from London, Ont., to the Capital, said: "It is just as cold in London as in Ottawa, only there is more snow here." "Wait," say I, "just see the difference in the trees." "Well, that is one way to look at it," said he, and abandons the argument.

When the fruit-grower finds the peach will ripen west of Toronto, but not east, even on the lake shore, he will see there is a very slight, but still some difference in the climate, not perceptible, and perhaps not of a kind to be learned altogether from the meteorological reports—a tree planter, as well as the fruit grower, will tell from the success of his varied stock, all the diversities of temperature, moisture as well as wind and soil.

For practical success in either, a careful study of the native trees and fruits is the safest guide. After a little experience is gained, it will be of profit to try many other trees, not yet known to be hardy in the locality; and persesevere in the experiment, as frequently a variety a little more hardy than its nearest relatives, may be found.

I cannot say that for profit it is desirable to plant any trees not known to be native to the locality, or near it. In this country new plantations are yet in their infancy, and offer no results to guide us, and in the meantime we must go on planting what we are sure of and experimenting with all others we have any hope of. The Catalpa is a foreign tree, of doubtful hardiness, though I have seen a good tree raised from seed grown at Hamilton, Ont. I have not been far enough south yet to find a Catalpa on which the tip of every limb was not frozen back more or less, and I think it took an experimenter, Dr. Warder, many years to find a variety that was hardy in Ohio. The Catalpa Speciosa introduced by him seems to answer there, and is worth trying in Ontario, but there is a great

difference between Ohio and Ontario. The Ailanthus has run wild in Ohio, but freezes like a tender rose in Ontario. The Sweet Potato is a main crop there and a curiosity here. Ohio seems to have been the home of the Black Walnut—its soil and climate exactly right for it, though the tree grows well from Ottawa to the Gulf of Mexico. The Ash is another tree of great range, moves all over North America without trouble. The Pine seems equal to storms of the north as well as heat of the south, but all trees, like any other emigrants, do not like to move too far at once, and a variety of any tree may be found quite hardy in Canada West, when brought from a northern limit of its natural growth, when the very same variety from Southern seed will fail. Within a still shorter range some individual trees may come out hardy, (like persons with a good constitution) yet all others grown from the same lot of seed may fail; nurserymen take advantage of this to propagate by grafting from the hardy individual instead of sowing seed. A good deal of disappointment about the Russian mulberry has been caused by a neglect of this care. It certainly grows in colder countries than Ontario, and has been introduced at high prices in small lots here to all fail in a year or two.

Nurserymen seeking novelties, and urging them upon the inexperienced, have done a great injury to the fruit interests, as well as to forestry and tree growing. I have a bill of complaint against the largest nursery in Ontario for sending me a lot of trees at seventy-five cents each, which they knew could never grow here. Well, they lost money by it as well as myself, and I know better now.

For purely ornamental planting the choice of trees may be very extensive, and may include almost any tree, not tropical, in so many places in cities or near houses. The temperature never falls to the real level of the latitude and even one of these unusual trees is a great improvement to the collection; but alas, how few lawns or parks in Ontario can boast of a collection of trees of any kind. Is there one where any good reason can be found for the choice or position of even one tree, or even for the shape of the land on which it grows. This leads me to think of the size, color, growth, season and life of trees, and what can be done either in a park or plantation with the native trees of Ontario only, and hope that someone may find enough even for one lawn and go and try it.

NOTE.—Forester writes from Northern Ontario, and from his point of observation is correct in his statements concerning the Catalpa, but in Southern Ontario this tree thrives well. Even the Southern variety, Catalpa bignonioides, succeeds at Grimsby, a favored spot on the southern shore of Lake Ontario; the writer having a tree some twenty-five years planted, and perfectly hardy. The hardy Catalpa, C. Speciosa, is reported successful at Goderich and Collingwood; it was distributed for testing in the spring of 1885, and the members of our Association should now be able to report upon it from all sections, and we hope they will do so. The Chinese Ailanthus is also perfectly hardy at Grimsby.

ARBORICULTURAL.

Moving Large Trees.

A CORRESPONDENT of the *Country Gentleman* writes inquiring the best method of moving some swamp maples eight to ten inches in diameter, from a swamp to his lawn, a distance of 1,000 feet, with roots intact. Believing the reply to be of interest to many of our Canadian readers we give it in full :—

"There are two modes of removing large trees, represented by the accompanying cuts. Fig. 79 shows the way in which it is done by lifting the tree from the ground in an erect position, drawing it on wheels to its place of destination, and dropping it into the hole previously made for it. The tree is first loosened by digging, then lifted with the lever *b*, the trunk being wound with carpet or sacking, or with straw, to prevent bruising by the chain, which raises it to the hinder wheels of a common farm wagon, run up to the tree from behind. Chains attached to the axle then enable the horse (or horses) hitched to the whiffletree *a* to draw it. This mode applies well to the removal of evergreens as well to deciduous trees, the branches of which need not be disturbed on account of the erect position. In either case, the tops should, however, be made lighter by cutting in the branches so as to present an even natural top. The other mode is represented by fig. 80, and applies mainly to deciduous trees. The tree is first entirely loosened by digging, and the two wheels (with the tongue) are run up against it. The top is tied into a compact shape, and the tongne of the cart placed erect against it, and both tied securely. They are then brought down horizontally, thus lifting the tree quite out of the ground, and it is then drawn to its desired place, and lowered in the same way that it was lifted. We cannot promise our correspondent so vigorous a growth for the trees as he desires. However careful and well-conducted the removal is effected, there will be a great check given. Trees six inches in diameter and twenty feet high, have thrown out their roots at least twenty feet in every direction, thus occupying a circle forty feet in diameter. A very small part of this broad circle of roots can be secured and carried with the

FIG. 79.

tree, and a considerable check must be given. The tops of the trees must be lightened by pruning, retaining a symmetrical form, to correspond in part with the necessary mutilation of the roots. Trees of the size mentioned should have a removed circle of roots eight or nine feet in diameter, and the soil above the roots may all be taken off down to the mass of the fibres to lessen the load. Those from a sheltered swamp

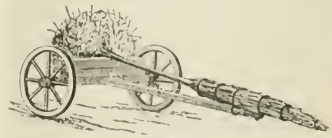


FIG. 80.

would be too much exposed to the winds of winter if removed this fall, and the work should be left till spring. Trees two or three inches in diameter may thus be removed with comparative ease ; but with a diameter of half a foot, the labor and difficulty are greatly increased.

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

Notes and Comments.

RELIABILITY OF COMMISSION HOUSES.—We sometimes receive inquiries respecting the reliability of commission houses advertising in this journal. We shall use great care to admit to our columns only those whose standing is first-class, and so soon as we hear anything unfavorable concerning any of them we shall lose no time in giving notice to our readers. We shall thank any of our readers for information in this line which may prove of general benefit. Regarding the standing of Messrs. Pitt Bros., advertising in the September number, we have so far failed to secure any satisfactory information.

THE WINTER MEETING AT HAMILTON.—Our friends of this "Ambitious City," seem much pleased at the prospect of another meeting of our Association there; and will, we doubt not, do everything in their power to make our meeting one of unusual interest and profit. Should the proposed Dominion Convention of Fruit Growers take place as proposed at Montreal on the 7th of January, our meeting at Hamilton will be held in December; otherwise in February.

The first session will be held on a Tuesday evening, when the retiring President, Mr. A. McD. Allan will deliver his annual address, and the election of directors and officers will take place. The Wednesday and Thursday following will be devoted to discussion of topics which may be classed under the head of fruits, flowers or forestry. We shall be much pleased to receive, at once, lists of subjects, or questions for the meeting, so that they may be entered upon our printed programme.

THE PLANT DISTRIBUTION for next spring is, we think, an unusually valuable one, and although primarily intended only for general testing and reporting upon new varieties, is indeed no mean advantage to be considered by those who are invited to become members of our Association. Now is a good time for securing a list of new subscribers in every town, and we will cheerfully send sample copies and blank forms to those applying. In place of commission for the trouble of securing new names, the club raiser may take

from the list below one choice for each new subscriber.

1. The Vergennes Grape.—Colour, light amber; productive; fine for winter use; one year old.

2. The Winter St. Lawrence Apple.—Supply limited.

3. The Princess Louise, or Woolverton.—A most beautiful Christmas dessert Apple, rivalling the Maiden's Blush in beauty and excelling the snow apple in quality; new; one year old.

4. A Hardy Rose Bush either *Gabriel Tournier*, a comparatively new standard, deep rose coloured variety; *Baron Bon Stetten*, maroon; or *Paul Neyron*, the largest variety in cultivation.

5. A package of Winter flowering Bulbs.—(To be sent out in November, 1888). Containing one Polyanthus Narcissus, Grand Monarque; one Hyacinth, Crimson Belle; and one Anemome, double.

6. Two Chinese Primroses.—Different colours.

7. Package containing Japan Ivy (Ampelopsis Veitchii), the most beautiful of all creepers for a stone or brick wall, needs no support, colors gorgeously in autumn; and *Geranium*, double scarlet or double white.

8. Four Strawberry Plants, viz:—Two Logan and two Itasca. Two new seedlings, produced by J. H. Haynes, of Indiana. The Logan is claimed to be very productive, excellent in quality, and for keeping and shipping unequalled. The Itasca is a seedling of the Manchester. Our hope is to see a general effort all along the line, to extend our membership, so that we may feel justified in carrying out our plans for the improvement of this journal for the year 1889.

Mr. George Cline, of Winona, is a successful plum-grower in the Niagara district. He has now 3,500 trees planted out in an orchard for market purposes, a portion being now in full bearing. His soil is largely clay loam, and in parts sandy loam, and seems well adapted to plum culture. We value highly such information as grows out of practical experience, and have prevailed upon Mr. Cline to open the subject of "Plum Cultivation for Home Use and Market," at our winter meeting at Hamilton.

QUESTION DRAWER.

Grape Vine—Leaf Hopper.

100. By to-day's mail I forward specimen of a vine leaf infested by a species of white midge, the leaves of which look brown and die. Some years since my rose trees were affected, year after year, in the same manner, so much so that I dug up a fine collection. On touching the leaves, the pests, which are innumerable, fly off. Can you inform me of any cure and oblige. Thomas Sibbald, *Sutton West, a member of the Fruit Growers' Association.*

The insect referred to in this question is the Leaf Hopper, referred to on pages 148 and 151 of this volume.

Books on Fruit Culture.

101. Would you please inform me where I could obtain Downing's work on Fruit, and at what price?—John E. Richards, *Aylmer.*

For this and other Horticultural and Agricultural works, write to the office of the *American Agriculturist*, 751 Broadway, New York.

A Proposed Bill to Regulate Fruit Packages.

102. Dear Sir,—It seems to me it is time something like the annex were on our statute books. This is a rough, off-hand draft, and doubtless could be amended to meet the demands for honest dealing. An Act ever so stringent will commend itself to honest fruit packers, like the members of the Fruit Growers Association, and it will also to the better buyer. I hope we soon will have some protection.—G. Fawcett, *Ottawa.*

An Act respecting the Packing of Green Fruits.

All fruit shall be sold by measure or weight.

When it is expedient for transportation purposes, to use bands, crates, boxes, baskets, or other package, such shall be of uniform size of its kind, and shall hold a specific quantity, which shall be stamped upon the package in such a way as to be easily seen by the purchaser.

Barrels containing apples, and pears or other fruit shall be of such size as to contain two bushels and one half-bushel. Baskets shall be of such size as shall contain one and a half pecks.

Boxes containing strawberries, raspberries, blackberries, cherries, and other such fruit shall contain one quart. Each measure shall be Imperial.

Fruits sold by weight shall have the net weight legibly stamped on the package.

The name of the packer shall be stamped on every package.

All fruit shall be sound and healthy.

Apples shall be sound and of uniform size and kind.

Any person selling, or offering for sale any fruit in contravention of the provisions of this Act, shall be liable, upon conviction before a court of competent jurisdiction, to a fine of twenty dollars and forfeiture of all the fruit so sold or offered for sale, for a first offence, and $100 and forfeiture for a second offence, and so on, for each offence.

No doubt there is just ground for such complaint as Mr. Fawcett makes, on the part of consumers of fruit, and the proposed Bill, with some amendments, can do no harm. We do not, however, see the necessity of making an absolute size for any package, providing the number of bushels, pecks, quarts or pounds is stamped upon it; the one would surely suffice without the other. Nor should a size different from that now generally used, be made compulsive. The apple barrel now used in Canada holds $2\frac{3}{4}$ bushels, and nothing would be gained by making it smaller. An imperial quart might be a proper size for a basket to contain strawberries, blackberries and cherries, but it would certainly be too large for raspberries.

That all apples in a barrel should be sound when offered in the market would also be *ultra vires* so far as legislation is concerned, for fruit leaving the orchard in a sound condition might be very much decayed by the time it reaches its destination, especially when shipped as ordinary freight. We have shipped pears perfectly sound to Montreal, and a week's delay upon the road turned them to mush by the time they reached that city. Neither should the grower be prohibited from packing more than one variety in a barrel, else often a barrel of apples would be unmarketable just for want of enough of one sort to fill it.

That the package should be uniform in size and quality with the *face appearance* should, however, be insisted upon, for deceptive packing is as hurtful to the best interests of the grower, as it is deceiving to the buyer.

Seedling Plum.

103. I ENCLOSE to your address a small sample of a seedling plum, raised by Mr. R. Topham, of Elora. This is the fifth year of bearing, and it has not showed any sign of Black Knot, Curculio, or any other disease the plum is liable to. It is a strong, healthy tree and a good bearer, and we would like your opinion of it.—W. GAY, *President Elora Horticultural Society.*

The plums came to hand in such bad condition we can scarcely give a decided opinion, or description of them; but aside from the good qualities mentioned above we see nothing in the plum to commend it. It is a comparatively small green plum, smaller than Reine Claude, and inferior in quality to it or to Coe's Golden Drop, and a clingstone. Possibly its immunity from Black Knot and Curculio, and its productiveness may commend it to planters.

Protecting Grapes From Frosts.

QUESTION No. 94 referred to the protection of grapes from September frosts, and the following hint from the *Vermont Watchman* may be of service: "A friend in Northern New England is very successful in growing grapes, and bringing them to full perfection, on the south side of a tight fence. The vines are trained upon wires attached to the fence-posts. Early varieties (Moore's Early, Delaware, Brighton, Salem, Eumelan, Adirondack) are planted. Frosts are not uncommon in September

but by the use of a wide, shelf like, but slightly sloping board, projecting from near the top of the fence, from the edge of which is hung a curtain of any sort of coarse cotton or bagging, the vines are perfectly protected from them until the succeeding warm days have thoroughly ripened the fruit. The curtain has often to be hung up but once, and never more than three times. The trouble and expense are but trifling."

OUR FRUIT MARKETS.

Covent Garden Market.

SIR,—The ruling prices of apples at Liverpool have been fairly steady, considering that the early fruit does not generally arrive in very sound condition. Up to the time of writing we have not received any Colonial or American apples for sale in this market—and we can well do without them till the beginning of next month at all events. There is no doubt a great desire on the part of shippers to commence shipping the earlier fruit, as we are reported in short supply, but shippers must not be led away with the idea that our market will absorb much of the inferior fruit, especially if the weather here continues more genial, as it has been recently; no doubt a large proportion of the earlier fruit will be wanted, but unless shippers are careful that all "Fall Apples" are sent perfectly sound and hard, and avoid shipping if the weather is very warm, the fruit well picked and packed perfectly dry, our shipping friends will be disappointed with the results, as there is every chance of them arriving in bad condition. Gravensteins or large cooking apples will be much wanted in the earliest part of the season.—J. B. THOMAS, *London, Eng., 14th September, 1888.*

Toronto.

THE following quotation of prices current from a Toronto daily of Sept. 19, agree so well with our own sales of the same date that we quote them in full.

Fruit and Vegetables—The fruit season is now at about its most active time and this is especially so of peaches. All kinds of fruit are arriving in quantity, but the number of peaches coming in daily is something enormous. The steamer Chicora, from Niagara, brought over 5,000 parcels of fruit to-day and it is safe to say that at least four-fifths of this quantity were peaches. Every deck of the boat was covered and they were piled all over the wharf wherever space could be found for them. The steamer Cibola, which was laid up, left this afternoon for Niagara for a cargo of fruit, so arrivals to-morrow may be counted on as large. Grapes and peaches form the largest supply at the fruit market at present, a good quantity of the former also coming in daily. Both grapes and peaches are selling lower, and it is not improbable that peaches may still further decline. The price, however has been held up well. Dealers are giving the most of their attention to the peach trade at present.

Peaches—Were very active and plentiful. Of the very large quantity that was offered but few were left unsold at the close of the market. They are arriving in quite good condition. Canadian Crawfords sold at 75c. to $1 per basket and common at 50 to 75c per basket.

Plums—There was a good supply and a good demand. Common blue are quoted at 75 to 85c per basket and finer at 75c to $1.

Pears—Preserving pears are quoted nominally at 40 to 50c per basket. There is no great demand for them. Bartletts sold at 60 to 70c per basket and $5 to $5.50 per bbl.

Apples—Are slow, and receipts are not very large. They are quoted nominally at $1.25 to to $1.50 per bbl. for cooking, and $1.50 to $2 per bbl. for eating. Crab apples are almost unsaleable at 20 to 25c per basket and $1 to $1.50 per bbl.

Grapes—Were plentiful and lower. There is quite an active demand. Concord sold at 2 to 3c per lb., Niagara at 5 to 6c per lb. and Delaware at 4 to 5c per lb.

Tomatoes—Are slow and unaltered at 20 to 25c per basket for Acmes. Few are arriving.

Montreal.

MESSRS VIPOND, MCBRIDE & CO. write under date of Sept. 19, quoting prices as follows:—

Pears—Have been a fearful glut and are only now improving a little. We quote Bartlett's 4 to $8 as to quality, F. B's 3 to $5 as to quality.

Apples—All kinds $1.25 to $1.50.

Plums—$1.25 to $1.50 per basket.

Peaches—$1 to $1.50 as to quality.

Liverpool.

MESSRS. GREEN & WHINERAY send catalogue of sale of 132 apples sold in Liverpool on the 3rd September, 1888, for which we quote: Ribstons $3 to $3.75, Kings $1.50 to $5, Black Detroit $5. Other kinds lower prices.

REVIEW.

The Dominion Illustrated is a new and most attractive illustrated journal, published by G. E. Desbarrats & Son, 162 St. James St., Montreal, 16 pages, folio. The engravings are executed by the new process of photo-gravure, which gives each number the appearance of a collection of first-class photographs. The subjects are chiefly Canadian scenery, or distinguished Canadians. Among recent engravings are "Les Trous Falls," Murray Bay, Victoria Square, Montreal, Public Gardens, Halifax, Sandford Fleming, Chancellor Queen's University, Kingston, Hon. Edward Blake, etc., etc. Such Canadian enterprises deserve the hearty support of all Canadians.

Transactions of the Massachusetts Horticultural Society for the year 1887, Part II., R. Manning, Boston, Secretary.

Thirteenth Annual Report of the Montreal Horticultural Society, 1887-8. W. W. Dunlop, Montreal, Secretary.

CATALOGUES.

Price List for Fall of 1888 of Hardy Bulbs, Winter-flowering Plants, etc.—Webster Bros., Wentworth St., Hamilton, Ont.

The Miami Strawberry.—J. D. Krusche, Box 824, Piqua, Ohio.

Bulb Catalogue.—Fall, 1888, John Lewis Childs, Floral Park, Queen's Co., N. Y.

For the CANADIAN HORTICULTURIST.

MORNING.

BY GRANDMA GOWAN, MOUNT ROYAL VALE, P.Q.

DEAR SIR,—I send you a little burst of joy and praise I indulged in this lovely morning. I look on nature with very loving eyes, altho' I am growing very blind and I never use glasses. Ah well, the dear Lord, whom I love, will (I am certain) let me have all my senses till my travelling days are over. I am very grateful for the length of days he has given me. I will be 73 on March 10th next.—GRANDMA GOWAN, GOWAN COTTAGE, *Aug. 6, 1888.*

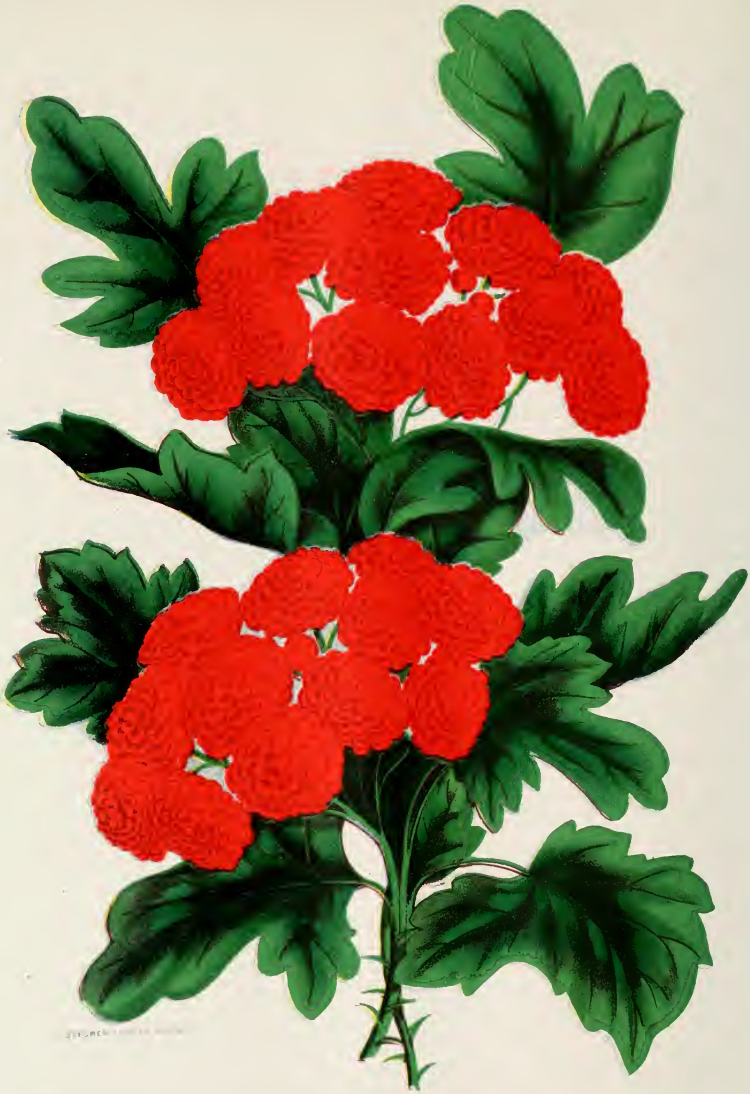
HAIL bright harbinger of day;
Resplendent orb of light!
Whose golden beams doth chase away
The sable shrouded night.

The crystal dew hangs on the flowers,
How sweet the glowing thorn,
Ah! who could waste, in sleep, such hours,
'The cheerful dawn of morn.'

The feather'd songsters of the air,
Their matin hymn doth raise,
The warbling little brooks declare
The great Creator's praise.

The flowers in ecstacy upfling
Their fragrant incense high,
Alas! that man should fail to sing
A holy psalm of joy!

Arise, and greet the new born rays,
And climb the upland lea,
Join in nature's song of praise,
In nature's Jubilee!



CRATAEGUS COCCINEA.

THE

Canadian Horticulturist.

Vol. XI. 1888. No. 11.

THE THORN TREE.

MARK the faire blooming of the Hawthorne tree,
Which, finely cloathed in a robe of white,
Fills full the wanton eye with May's delight.
—Chaucer: *Court of Love.*

Many of our country roadsides are ornamented in the month of October with a very beautiful species of native Hawthorn, viz.:—Crataegus Coccinea, or Scarlet Fruited Thorn. Its loads of beautiful bright red ovoid haws or fruit, relieved by the dense mass of dark green foliage, certainly present a most attractive appearance. What could be more suitable as a decorative shrub for the lawn at this season of the year?

We have also in Canada the C. tomentosa, or Black Thorn, and the C. crusgalli, or Cockspur Thorn: and all are full of beauty, with their mass of white flowers in the month of May. The English Hawthorn, referred to in Chaucer's lines above, and known to botanists as C. oxycantha, is well known as the favorite hedge plant in England. It is so associated with the floral games of May that it is known to some as the Maybush, and reminds us of the merry May-pole, with its top decked with garlands of the flowers from this tree, beneath which the happy party crowned their Queen of May. The Poet-Laureate speaks of this custom in his popular poem, the May Queen, thus:—

Last May we made a crown of flowers; we had a merry day;
Beneath the Hawthorn on the green they made me Queen of May;
And we danced about the May-pole, and in the hazel copse,
Till Charles Wain came out above the tall white chimney-tops.

Some cultivated species of the Hawthorn are especially elegant, as, for instance, the Double White, C. oxycantha fl. pl., and the Double Scarlet, C. coccinea fl. pl., the latter of which is well shown in our coloured engraving. Rambling about the Fonthill nurseries on one occasion the writer came unexpectedly upon the clump of this beautiful Double Scarlet Thorn, and was so charmed with it that he at once left an order for some of the trees for his own lawn. Its sharp spines are none too friendly ; but we may forgive some faults in consideration of its charming blossoms, and its appropriateness as an ornamental tree for small lawns, or as a portion of a group of trees upon a large lawn. Upon this point we quote a few lines from Mr. A. J. Downing's valuable work on Landscape Gardening. He says :—

"The Hawthorn is most agreeable to the eye in composition, when it forms the undergrowth or thicket, peeping out in all its green freshness, gay blossoms, or bright fruit, from beneath and between the groups and masses of trees, where, mingled with the Hazel, etc., it gives a pleasing intricacy to the whole mass of foliage. But the different species display themselves to most advantage, and grow also to a finer size, when planted singly, or two or three together, along the walks leading through the different parts of the pleasure-ground or shrubbery." Those of our readers who are making out lists of ornamental trees for the decoration of their lawns, will do well to fill in some retired nook with samples of Paul's Double Red and Paul's Double White Thorn in one group, for thus planted they will show to good advantage in contrast.

SOME PROMINENT CANADIAN HORTICULTURISTS.—V.

MR. P. C. DEMPSEY, TRENTON, ONT.

IT is with pleasure that we present to our readers a photo-engraving of one who has been long and favorably known at the meetings of our Association, and whose practical knowledge of horticulture has always been freely communicated to the public.

It is now fifteen years since he was first elected a Director, representing Division No. 4, a position which he still honorably fills ; and during that time he has been once elected Vice-President, and twice President.

One hundred and one years ago Mr. Dempsey's grandfather, a United Empire Loyalist, settled at Albury, Prince Edward county. Fond of fruit culture, he brought seeds along with him, from which he started a nursery, principally of apple trees, some of which are still living and bearing fruit upon the old homestead. Cider was made in large quantities from this orchard in early days, and during the war of 1812 proved highly profitable business, bringing him high prices by the hogshead.

Thus, growing up among orchard trees, Mr. P. C. Dempsey early developed a taste for fruit culture, and in the year 1857, finding the confinement of office work too great for his failing health, he decided to devote his whole attention to horticulture.

1875, to the position of Vice-President; and in 1880, and again in 1881, to the highest gift in the power of the Society to bestow, viz., that of President.

Mr. Dempsey was sent to the Centennial Exhibition, in company with Colonel McGill of Oshawa, in charge of

MR. P. C. DEMPSEY, TRENTON, ONT.

Soon after, hearing of the good work being accomplished by the Fruit-Growers' Association, he became a member, and was first elected a Director in the year 1873. A fluent and pleasing speaker, he was always heard with interest by all in attendance, and honored by his election, in the year

our exhibit of Canadian fruit, the medals from which are still in possession of our Association; and in 1886 he was employed by the Dominion Government, in company with Mr. A. McD. Allan, to have charge of Canada's fruit exhibit at the Colonial and Indian Exhibition

The subject of this sketch is also favorably known in horticultural circles in Canada as a hybridist, having devoted much attention to this interesting study, and to the practice of the art. To his success in hybridizing, the Burnet grape, the Trenton apple, the Dempsey pear and the Dempsey potato all bear lasting testimony. The Trenton apple, of which we give a description elsewhere, now five or six years fruited, has been offered in the Belleville market, and always brings Mr. Dempsey a fancy price; the Dempsey pear, a real acquisition, is the result of a cross between the Bartlett and the Duchess some twelve years ago. It partakes of the excellences of both parents, and is in season just before the latter.

We hope that Mr. Dempsey, and all others of kindred spirit, may long be spared to brighten our meetings with their good cheer, and to impart to the inquirers the results of his long experience in fruit culture.

THE TRENTON APPLE.

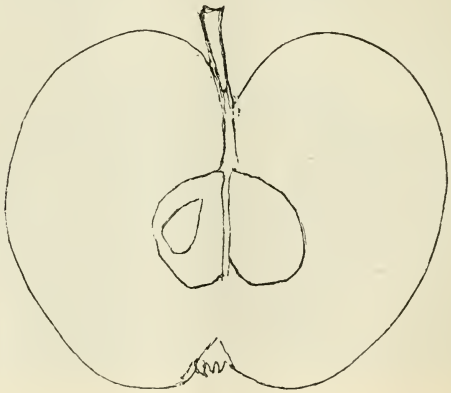


FIG. 81.—THE TRENTON APPLE.

AMONG the new seedling apples which have come under our notice of late, the Trenton certainly takes a very prominent place. In the Report of 1887, p. 10, the President speaks of it as follows:—"Mr. Dempsey has also produced a new apple, the Trenton, by crossing the Golden Russet and Spy. The Trenton has the appearance as if of the Fameuse family; form and size goes with the Russet parent; flavor richer than Fameuse; and color more intense and covering."

Two samples lie before us on the table, and certainly are as tempting as any dessert apple could possibly be. The form of the apple is shown in the outline, being roundish obtuse conical, with one side of the base rather more prominent than the other. The skin is a green or yellowish ground, with obscure stripes of red on the shady side, deepening in a wine color towards the apex, and dotted with obscure greyish dots; stem one inch long, set in a funnel-shaped russeted cavity; calyx nearly closed, set in an uneven basin of medium form; flesh white, juicy, melting, sub-acid, fine grained, with a rich aromatic flavor; October; very good.

THE QUINCE.

By Agricola.

THE QUINCE Tree, though not so aspiring as the pear, nor spreading as the apple tree, resembles persons of modest mien, and shows its qualities by bearing good fruit. And, if the proof of the pudding is by the taste, the same may be said of the Quince when properly prepared. Then the Quince is not only good in itself, but (like a good man) it communicates its flavor to the fruits it comes in contact with.

It is not only ornamental, but what is more, useful. It makes a fine white show in the spring, and the yellow fruit looks like gold in the fall.

Nor does it hold the fruit above our reach like most trees, nor ask you to stoop to gather the golden treasures in the market basket. It belongs to the Rose Family, as does the apple and pear, and it imitates both in its various shapes.

It carries also antiquity in its name. It is said to have been the fruit in the garden of the Hesperides, and valued so highly that Argus with his hundred eyes was set to watch; and it took Hercules, a semi-god, to steal the fruit which no mortal man could obtain. The Greeks and Romans speak of its savory and health-conferring qualities. Persons who have used the fruit speak of its astringency, and think it tones up the human system without producing that lassitude which some fruits do. The writer was once called on by a customer for a fruit tree, and when he was asked what kind of a tree, he said he wanted "*a Squince.*" Had he called for the Cydonia Vulgaris I might not have understood him quite so readily; so in this case a little learning was not, as Pope says, a dangerous thing.

The ornamental or Japan Quince is called Cydonia Japonica. There are several varieties of Quinces. The Anger's Quince is used for budding or dwarfing the pear on, the Apple and Pear Quince for market. There is a variety called Rea's Mammoth, said to be of very good quality, larger than the Orange, and if it were as early in ripening would be the most popular: and one called Champion,

which is larger, and very fine, but also rather late.

Our soil is adapted to this exotic tree; it is valuable for market, it is wholesome, and it is ornamental. Then why not plant more Quince Trees? The writer has about 200 trees which pay well, selling readily, and would if he had double that number.

BLUSHED CALVILLE (22 m.)

By J. L. Budd, Ames, Iowa.

I HAVE just read Dr. Hoskins' note on the Yellow Transparent in the September number. We cannot grow it at Ames, Iowa, on the College grounds on account of its extreme tendency to blight. But on the same ground Blushed Calville is perfect in tree, and an early and regular bearer of perfect, even-sized fruit that is handsomer and better in quality than Yellow Transparent, Thaler, or Grucheoka.

When it first came into bearing we supposed it to be a week or so later than Yellow Transparent, but we now find it is ready for home use or market quite as early, and that it will remain juicy and hold its flavor for two weeks or more after it is picked. In this respect it equals the Dyer.

Taken all in all we think it the best early Apple yet tried for cultivation over a large part of the United States and Canada. It endures at the north quite as well as the Duchess, and its excellent foliage allows it to live and thrive at the south.

Breskovka (152m) is as good in tree, and the fruit is fully as good for dessert use or market; but its season is brief, as it becomes water cored when overripe. It is astonishingly like Grime's Golden in size, shape, color, and flavor.

EXPERIENCE AT PENETANGUISHENE. STRAWBERRIES, CURRANTS, GRAPES, ETC.

By G. J. R.

SIR,—It is a good while since I have sent any of my experience with fruits, so I will give a little of the past summer. In strawberries, Crescent, Wilson, and Sharpless did well in spite of the extremely dry weather. I fruited a few plants of Jessie. The berry is large and of good quality, but I cannot see where the productiveness comes in. It also felt the drought more than any other variety. May King seems to be a promising berry—good flavor and very bright, attractive color, and not at all affected by drought.

In currants, Fay's Prolific is my favorite for size of berry and bunch; Raby Castle for productiveness. Fay's is also a little the sweeter of the two.

I also have a number of the Versailles. I like it well for its fruiting qualities, but it has one bad fault—in a high wind the bush suffers badly. After one windy day last summer, while the fruit was ripening, I picked up whole limbs yards away from the bushes. Ostheim Cherry, received last spring, did well for a time, but has since died. Russian Yellow Transparent Apple and Niagara Grape Vine, received in past years, are doing well, but the Niagara seems to be a slow grower. Catalpa Speciosa (of which I have six) is a fast growing tree; it attracts much notice around here. The wood is slightly tender, gets touched a little every winter, but not enough to stop the growth. I like the HORTICULTURIST much in its new dress. I have for some time been trying to extend the circulation around here, but there are not many interested in fruit growing. I have a strawberry in my mixed bed which I wish you could name for me, that I may avoid it in future. I must have got the plant from a friend, and got no name with it. The plant is large, the berry is a pale pink color, discolors when ripe, shape of berry very flat, taste miserably sour. I am rooting them out when I come on them in fruiting time.

VITICULTURAL.

Keeping Grapes.

SIR,—In your September number I notice an article on Keeping Grapes. For the last two winters I have kept a few of my grapes with good success by packing them in a crock, with first, a layer of hardwood sawdust, then a layer of grapes and so on till the crock is full and cover with a piece of board. I packed them in October and took out the last of last winter's lot on May 31, just as fresh and good as when they were packed. I think they were Hartford Prolific and grown in a greenhouse without artificial heating.

I have grown two sorts of gooseberry, the Crown Bob and Downing, for the last nine years, and have never seen a speck of mildew. The only manure I apply to them is wood ashes in the Autumn.—F., *Fergus, Sept. 18, 1888.*

The Grape Cure.

REFERRING to the virtue of the new grape cure, the *Farm and Vineyard* says:—Much interest has been excited in medical circles and the public mind for years past in regard to the alleged curative qualities of the grape, and its efficacy in a large class of stubborn and chronic diseases. The grape cure, as it is properly called, has been in vogue for a considerable length of time in France and Germany, and the method of treatment has been to let the patient eat all the ripe grapes daily that he or she desired in vintage time, and many remarkable cures are regarded as having annually occurred.

The grape cure has become a well-established fact in America as well as in Germany, and every day is developing new truths in support of its wonderful efficacy. The eminent Irving C. Ross, M.D., speaking from personal experience, says of it:

"Some years ago, on arriving at Cadiz, after a long voyage and the

monotonous diet of a sailing ship, and my system being greatly reduced, I determined to try for a time a diet consisting almost exclusively of grapes. The result was rapid re-establishment of all the bodily functions, and a feeling of more than ordinary strength and agility. I was prompted while in San Francisco, Cal., to resort to the grape cure for the second time; the result being satisfactory, I recommended the cure to several persons who were much run down with over-work and bad diet, and I had the satisfaction to see a rapid gain both in weight and appetite."

It having been sufficiently demonstrated that the methodical and rational use of grape juice breaks up all habits of nutrition, rapidly reconstructs the blood, and exercises a salutary influence upon the nervous system, it follows as a rational sequence that the grape cure would be the natural and most efficacious remedy for many persons in our large cities who, in consequence of extreme heat and improperly cooked food, suffer from congested livers and intestinal catarrh, and who delude themselves with the popular fallacy that malaria is the source of all their troubles Overworked clerks and newspaper men, who keep late hours and live on boarding-house fare, may derive from the vegetable milk of the luscious and inoffensive grape a rational means by which to re-establish those physiological conditions so essential to clear thought and a proper discharge of their wearisome duties—and which is alone worth living.

For years past a New York city firm has sold pure grape juice at five cents a glass or twenty-five cents a bottle, that can be carried to invalids and old people at their homes. The business of these firms during the grape season has been simply immense. As long as fresh grapes can be had, small hand presses upon the counter are used for expressing the juice, each person selecting his own grapes, if he chooses, from any of the different varieties on hand, and paying five cents per glass for what he may drink, and very often the same person will drink two or three glasses. At the close of the grape season they usually grind and press large quantities of grapes, principally Concords, the juice from which is filtered or strained and put away in barrels, in a temperature always below 40°, where it will remain fresh and sweet until grapes come again, as fermentation cannot take place in so low a temperature.

This is probably but the beginning of the use of "unfermented grape juice" in this country; and the demand for grapes for this purpose, and as a healthful beverage for the people in general, added to the immense quantity to be used in making unfermented wine by evaporation, that will keep in its present state for years, in all climates, and can be shipped cheaply all over the world, will render the over-production of grapes in the United States quite improbable.

Fertilizers for the Grape.

Josiah Hoopes, in the *N. Y. Tribune*, says: "Good stable manure thoroughly rotted is the best invigorator for grapes: whether organic fertilizers are best for health and longevity of the vine is another question. Application of bones to the grape border is of greatest importance, as careful examination of the roots will prove. Ground or unbroken bone is preferable to the material in an unbroken condition, as it allows of a more even distribution and hastens disintegration. Grape-roots, however, will push a long distance in a straight line, to obtain this much-coveted food. Some years since, in removing a vine, it was found that the roots on one side were much stronger than the others, and curiosity as to the cause instigated a careful search for the extremities or feeding rootlets. After several feet had been uncovered the bones of a dead

animal were unearthed, but they were so completely covered with a perfect network of small fibres as to be almost indistinguishable.

"These rootlets had penetrated into every crack or inequality of the bones, which evidently had been of great service as food for the plant. Beyond question iron in the soil is of great benefit for coloring the fruit. Iron filings and turnings answer an excellent purpose, and the effect may be noticeable the first season after application. Above all else the sweepings of a blacksmith shop have given excellent results, as we then secure manure in concentrated form and of a variety of constituents—the horse-droppings, hoof-parings, iron-filings, etc., combine to form a powerful fertilizer. Perhaps no other plant is more quickly benefited by the contents of the wash-tub every week. It is a mild solution of potash and appears to be greedily absorbed at once. A plentiful allowance of wood-ashes forked in the soil in the spring pays well in the crop of fruit. It may not destroy mildew on the foliage, as some claim, but it will certainly invigorate the plant."

Few men are able to speak with greater authority than J. B. Moore, of Concord, Mass., on grape culture, and this is what he told the New England Farmers' Club about manures:

"Any land that is rich enough to bear forty bushels of corn to the acre is rich enough to grow grapes. As far as my course is concerned, I have not used manure after planting.

"I have used applications sometimes of bone and potash salts, with occasional plaster of Paris mixed with it, because the grape requires more or less sulphur in the soil; the plaster of Paris is the cheapest way you can get it. It is sulphate of lime, and does not cost much. You can buy a ton for five or six dollars, and it is as good an application for that purpose as anything that I know of.

"The reason why you don't want to apply animal manure largely to your grapes is, that it induces a rank, coarse growth of wood and foliage, which is unfavorable to the production of fruit. You want a fair, moderate growth of wood and that is all. You want a medium-sized wood. The cane should be about the size of your little finger, and it will bear larger bunches and more of them than if it is three times as large.

"You want to have the canes well ripened also. Stimulating the vine by animal manure makes it grow until late in the fall, and the wood will not ripen as well. The fruit buds do not thoroughly develop until the wood is partially ripe. I think you can make a much stronger fruit bud by moderate than by over-manuring."

THE SMALL FRUIT GARDEN.

Commendable Strawberries.

The one berry that I can recommend with confidence as being earlier and more productive than the Wilson, is the Crescent, especially as it succeeds everywhere. It requires very little skill or care to grow it, but after one has it, it possesses so little real merit as a fruit that one can not prize it. The May King is just as reliable, about as early, a little less productive, of larger size and better quality, decidedly a better berry for home use. From what I have seen and heard, Warfield's No. 2 is more desirable than either of the above, and will probably supersede them. As it may be obtained from almost any nurseryman, I would advise

all to try it in a small way. The Covell is the earliest of all, quite productive, and a firm, attractive-looking berry of good flavor. All that prevents it from being very valuable is its small size. In the matted row, with ordinary culture, the fruit is about an inch in diameter for two or three pickings, and with better culture the size is little, if any, larger. I can scarcely recommend it for market.—M. CRAWFORD, *Summit County, Ohio.*

PEARL STRAWBERRY.—I have read with interest the note of Mr. E. Williams in a late number, on the behavior of the Pearl on his grounds in New Jersey. We can also report unexpected satisfaction with our trial of it under the most trying circumstances. Our plants, received from the West Jersey Nursery Company in the spring of 1887, were planted on well-prepared ground with such leading, new sorts as Bubach's No. 5, Jessie, Jewell, Itasca, Great Pacific, and Townsend's 1001. The season proved the dryest and hottest known in the history of the West, yet the foliage on the Pearl remained perfect, and the first of October showed a well-filled matted row, better than anything on the plot, except Great Pacific. When the crop ripened this season it was pronounced by pickers and visitors the best in yield of the new sorts, and the evenest, smoothest, firmest-fleshed, and best in quality of any berry. This is high praise and may not be repeated another year, but as it now stands it has done admirably under the most adverse circumstances. —J. L. BUDD, *Iowa Agricultural College.*

SIR,—As I had been anxious to see the "Jessie" strawberry in fruit, I took a visit to John Little's fruit garden Granton, Ontario, on the 6th day of July, but I was too late as it was nearly over, but he recommended it highly for an early berry. I was also interested to see his own new Seedlings which I found to be a most prosperous success, and was surprised to find so late in season such a berry as his No. 15 (Seedling). It combines large, and equal size, fine color and form, with unsurpassed productiveness and good quality of fruit. I would say this: if the No. 15 turns out the same as his, in different soil, it is better than any of the highly praised novelties that I have bought for the last six or eight years, and I have on my own ground all of fifty kinds of strawberries growing. I remain, yours truly, FRED MAYER.

BRIDGEPORT, *July 10th, 1888.*

Copperas as Manure.

THE first instances are those made under the direction of Professor Muntz, at the farm school of Vincennes, France.

A solution of one per cent. of sulphate of iron was used; the quantity corresponded to fifty-eight pounds per acre.

On equal lengths of rows the increase was ten per cent. of Dwarf Beans, and within a fraction of ten per cent. on Carrots.

From some other trials there was reason to think that a second watering would have been still more beneficial, and this opinion is confirmed by an experiment made by M. Fischer, President of the Section of Horticulture, at Chaillevois, in which an increase of thirty-six per cent. of crop is noted by use of two hundred and seventy pounds per acre.

On both of these trials the spaces occupied by the crops and their weight were accurately determined.

Other instances are given. One is a dose equivalent to thirteen hundred pounds an acre on a plat of Peas and other vegetables. The Peas pushed with extraordinary vigor and grew to a gigantic size, and the crop was very abundant; the other vegetables presented an equally remarkable development.

Another, some Lettuce upon the copperas, was used at the rate of eight

hundred pounds per acre; the plants were very beautiful, and leaves very erect.

Another case is the successful use of it on a plat of Strawberries.

Several instances are given of its use on vines with the most beneficial effects, especially on some that were greatly enfeebled and supposed to be in a dying condition, and others whose leaves had become a sulphury yellow, indicative to vinyardists of lingering disease; in the former case the vines took on a new growth, and in the latter the foliage became perfectly green.

Its good effect on Pear trees is noticed, in one case transforming, by its action, fruits that were formerly hard and gritty. Roses, Geraniums, Violets, and other plants are mentioned as receiving benefit from its use on them.

The conclusion is, that copperas can be employed to advantage on garden crops at the rate of 250 to 900 pounds per acre, using it in a solution of one and one-half per cent., and repeating the employment three or four times. *Vick's Magazine for September.*

Coal Ashes for Strawberries.

E. S. Goff, of the New York Experiment Station, says in the *Rural New Yorker*: "Three years ago, at Dr. Sturtevant's suggestion, a bed of Sharpless strawberries was planted out and heavily mulched with coal ashes. The object was to see if this material would not act beneficially in keeping down weeds. It has done this in a marked degree, but this is not all. The yield from the plants has been more abundant than from another bed of the same variety that has received excellent culture of the ordinary kind. The plants have been almost entirely free from blight, though the Sharpless blights badly here when grown in the ordinary way. I should have stated that the bed has received no culture since the mulching, except to remove the weeds that were strong enough to grow through the three inches of coal ashes."

FLOWERS

A FEW POINTS IN REFERENCE TO BULBS FOR THE OPEN AIR.

By Hermann Simmers, Toronto.

NOW that open-air flowers are over, and the flower beds may be cleared of their summer decorations, it would be well to remind the amateur of the advantages gained by planting such beds with a liberal supply of spring flowering bulbs. What can be more cheering to a lover of Nature, after the garden has been covered with its usual quantity of snow for three or four months, than to see upon the first appearance of spring some attempt at life in the garden, where the beds have been filled with a good selection of bulbs. In a few weeks from the time they make their first appearance, they change the dreary spectacle to one of beauty, and this may easily, as well as cheaply, be done by planting certain varieties of open-air bulbs. The keeping of the garden well stocked with pretty flowers from middle of April until end of October may be assisted by such fall preparations. Of course,

many people will say what a great deal of bother, and what a time you have to wait before your bulbs flower; but to a lover of the beautiful the interval until spring may be filled up with the attention to your house plants, which extends the growth of flowers from one year's end to another, as well as occupies the mind in the care and cultivation of raising plants. If the readers of THE HORTICULTURIST have been following my articles on the culture of bulbs, the explanations there are given at more length than what I purpose doing here, my idea being only to remind the reader of the proper season at which to plant, which is NOW. The same beds that have been used for summer flowers may be used again for bulbs, for, after clearing the bed of its rubbish, thoroughly spading and manuring it, it is ready for the reception of bulbs. Nothing unusual is necessary in preparing the beds, only to take care to plant at a suitable time.

In a great many cases people say: "How can you plant flower seeds over the bulbs when they have done flowering in the spring?" Just here is a point where I have found a great advantage in planting deep. Of course they must be planted according to their kinds, because some are larger bulbs, and some bulbs are earlier; but, if most of them are planted on the deep side, they need not be covered during winter, which in many cases is apt to rot the bulbs, on account of too great warmth. I have planted quantities of Tulips, Hyacinths, Crocuses, etc, and always planted deep, without covering, and I have had very few miss in coming up; whereas parties covering their beds have frequently had only half to grow.

People have different ideas regarding the form in which to plant beds. They look very pretty if massed—one bed with Tulips, another with Crocuses, another all Hyacinths, etc.; but pretty effects may be obtained by planting a variety in a bed, for a tall variety in the centre such as Narcissus; then the next row to consist of Tulips, and the next of Hyacinths, with an outside row of Crocuses and Snowdrops interspersed. If a good bright show of colors is wished for, I do not think this could be secured in a better way than by massing double and single Tulips in a bed together. The colors of this beautiful tribe of bulbs are always so brilliant they are always sure to give a good effect. The outlay need not be very large; from fifty to one hundred bulbs in a bed four feet in diameter would be sufficient. As regards a scale of depth required in planting:—Crocus may be planted three inches, Tulips six inches, and Hyacinths seven inches. Any other bulbs of the same size may be planted similarly.

In conclusion, I would urge every person to try a few beds of these very beautiful flowers, and I feel confident that the result will be an extension of the beds every year.

FORESTRY

PRUNING AND TRANSPLANTING THE PINE.

By J. P. Cockburn, Gravenhurst, Muskoka.

DURING the hottest weather in July, 15th to 28th, I pruned a second growth pinery, covering several acres. The trees had grown three to six inches through, and in some clumps the inside branches began to wither for want of light and air. I pruned at this season because I found that the wound quickly and completely varnished itself with the resin formed from the evaporated turpentine. The limbs were sawn off close to the seal, which makes the least scar to cover over, and leaves the tree clean without the usual unsightly streams of half-dried turpentine, flowing from a bleeding and ulcerating wound, as when pruned out of season.

At the same time I transplanted several young pines taking them up out of dry, warm sand, and planting them in like soil, giving them no more attention after the first watering. This was done partly for the sake of experiment, and partly to make shade in my little apiary. I now find all are growing finely, while those transplanted in May have all failed.

The Pine will grow in any poor soil, and very soon becomes a most beautiful shade tree. In clumps on large grounds they are very desirable. The tree seems to defy the fiercest rays of the hot summers, and seems to delight in a dry, warm situation as well as in a moist situation in a swamp. I believe it can be transplanted with absolute certainty during the latter part of July. I shall try others of the Conifers next year at the same time.

Forest Trees From Seeds.

We sow all our tree seeds in spring, and as the following rules are based on our own experience, they apply to spring sowing:—White Ash seeds ripen in early October, and fall after the first severe frost. They should be mixed with moist sand and not allowed to become dry before sowing. This same treatment should be followed with all the native Ash family, with one exception, namely, the Green Ash, which hangs on longer and will germinate if sown dry; all others will remain dormant until the next season, if sown dry. Hard Maple seeds ripen early in October, and require the same treatment as the White Ash. Soft Maple seeds ripen in spring immediately before, or about the time that Apple trees begin to blossom. They should be sown within a few days after having been gathered. Elm seeds ripen in spring, and they require the same treatment as those of the Soft Maple. Black Walnuts and all nuts with a pulpy covering may be spread in thin layers, say six inches deep, and covered with sods and litter to prevent them dying during the winter, in which case the pulpy covering will be easily disposed of in spring. Other Nuts and Acorns, together with seeds of the Tulip Tree and Basswood, are more safely treated as recommended for Ash and Hard Maple seeds. Catalpa and Ailanthus seeds are kept dry during winter, and sown rather late in spring.

Birch and Alder seeds are kept dry and sown dry early in spring. Locust seeds and all those of that family are kept dry through the winter and soaked in hot water immediately before sowing. All seeds with a fleshy covering, such as Apple, Cherry, Mountain Ash, Cucumber Tree, Buffalo Berry, Red Cedar and Holly, are washed free from the pulp, mixed with sand, and sown in spring. We make an exception generally with the Red Cedar and the Holly, as they never germinate evenly in the spring; therefore, we bury them in a rot heap during two winters and one summer and sow the following spring. Poplar and Willow seeds are very fine and delicate and require skill, close attention and continual moisture during the early part of the season. Therefore it is cheaper and surer to raise them from clippings than from seeds. All seeds mixed with sand must be placed so that water will not stand around them. Frost will not injure them unless in a position where they will freeze dry. A cool shed where they are protected from sun and wind will be a proper place.—R. Douglas, *in Garden and Forest.*

Care of Shrubs.

Persons who neglect the shrubs, thinking they will care for themselves, know little what the same species will be if regularly invigorated with stimulating fertilizers in autumn or early spring, says an agricultural writer. I prefer the former season, as the manure becomes assimilated by the soil when the roots are beginning to grow and extract nourishment. Not only will application of manure and frequent stirring of the soil produce an increase of bloom, but the color will be intensified and the size of the individual flowers increased in every instance. Although I think midsummer about the best time to trim shrubs into shape, still it is an operation that should never be neglected at any time. Straggling, tangled masses of limbs "do" in a wild bit of landscape, apart from the cultivated grounds, but there is no excuse for them where beauty of form and careful training should be the rule. In regard to the objection that pruned shrubs present a formal appearance, it may be said that there is a point at which to stop the work, contenting one's self with merely cutting off a too vigorous shoot, or even perhaps trimming one side of a shrub to preserve a regular outline. Training shrubs to a single stem, in what is known as the tree-form, rarely proves satisfactory in our usually hot, dry climate; they seem to need a little shade about the roots and stems, and foliage furnishes it. Very pretty effects are produced abroad, however, by this tree-form, in a variety of the stronger growing shrubs, and especially when grafted high, but I doubt if they will ever prove popular here. There is a class of tender shrubs annually killed to the ground that should receive more attention. I allude to such species as Callocarpa purpurea with its mass of autumnal, purplish-violet berries, and Desmodium pendulaflorum bearing beautiful garlands of lovely drooping flowers late in summer. The roots of these are rarely injured, and they grow vigorously.—*Ex.*

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

Notes and Comments.

ENLARGEMENT.—We call attention of all members of our Association to the proposed enlargement, of this journal to thirty-two pages. Will all those who read this, and desire such enlargement help it on by sending in as long lists of new subscribers as possible before January 1st.

ROSES, SIX BEST; WINTER CARE OF, ETC.—At our Picton meeting, Mr. F. Mitchell, a successful rose-grower, on being asked which were the best six roses, gave the following as his choice, viz.:—Gen. Washington, Victor Verdier, La France, Madame Gabriel Luizèt, Coquette des Alps, and Prince Camille de Rohan.

To keep them clear of insect pests he advised showering them with tobacco water, especially for thrips and aphides. Pruning after spring blooming will cause the bush to send up fresh shoots, and give bloom later on.

Near winter the bushes should be covered with cedar boughs, which are better than straw, as the latter favors mildew, and sometimes kills the bushes. It is best to cover all kinds of roses, except Mosses and the old Cabbage rose, and even these are the better for it. If they seem too stiff to bend readily, a little digging on one side will render them more easy to manage.

QUESTION DRAWER.

Seedling Apple from Ottawa.

104. I ENCLOSE (in another package) a sample of a seedling apple I picked up on the market. The tree has been growing for several years at the foot of "the Laurentians" near this city and is said to be *entirely hardy*. This is a far sample of medium size, I saw apples off the same tree larger. The taste, to my mind, is against it being a sweet or nearly so, still I thought I would send it along. I cannot say as to its keeping.—G. W. FAWCETT, *Ottawa, Ont.*

This apple is above medium size, and roundish, oblate conical in form. Skin smooth, yellow, with bright crimson blush. Cavity rather large, funnel shape. Calyx closed in a deep corrugated basin. Flesh, yellowish white, sweet, tender. If hardy, a fairly good fall eating apple, especially for the north.

Reany's Seedling Apple from Chatham.

105. I SEND you by this same mail a sample of a seedling apple grown by Mr. S. Reany, a few miles from here. This gentleman exhibited some fine specimens of this fruit at our late fair, and after tasting it I was favorably impressed with its quality. It is not quite ripe yet (Oct. 4) and I fancy that later on the quality would be much improved.—J. H. WISMER, *Port Elgin, Ont.*

We also are very favorably impressed with this apple, both for appearance and quality. It is rather a larger apple than Grimes' Golden and has much the same golden yellow color of skin, but is evidently a fall apple, in season about from October to December.

It may be thus described:—Fruit above medium size, almost round. Skin smooth, slightly uneven. Color, rich golden yellow, sprinkled moderately with small grey and light dots. Stalk three quarters of an inch long, inserted in a funnel shaped slightly russeted cavity. Basin abrupt, even. Calyx partially open. Flesh yellow, fine grained, juicy, with sprightly, vinous flavor. Core small. Quality very good to best.

We give our readers an outline of a section of this apple, and from sample

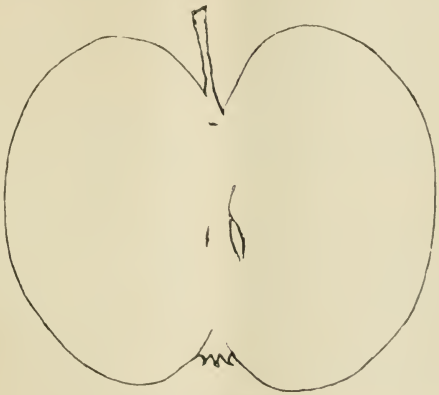


FIG 82.—REANY'S SEEDLING APPLE.

sent us judge it to be an excellent table apple. We advise Mr. Reany to send scions to the Experimental Farm, Ottawa, for further testing, and also, if he choose, to the writer.

Mushrooms, True and False.

106. WOULD you please to answer through your HORTICULTURIST how to tell the difference between mushrooms and toadstools.—ARTHUR HEWITT, *Toronto.*

Reply by Prof. Panton, Botanist, Agricultural College, Guelph.

In mushrooms the spores are *purple*, the gills are at first *pinkish* afterwards purple; there is a permanent ring or collar round the stem. This fungus does not grow in the woods. The smell too, is somewhat peculiar, and when once observed serves to identify it: this mushroom smell cannot be described but requires to be experienced in order to be understood.

The term toadstool is very general and applied to several fungi; the mushroom itself is included in the name sometimes, and thus it becomes difficult to just say what a toadstool is. Let the inquirer learn to identify the mushroom by the characters given above and look at other forms with suspicion until he has learned to know thoroughly the characters of the edible fungi.

To see, handle, and taste the true mushroom is by far the best way to learn how to identify it, and this is the method the writer would advise, rather than to depend on a book description where so many serious cases of poisoning have resulted from mistaking poisonous fungi for those that are edible.

Further Tests.

The following tests are given for distinguishing between true and false and poisonous mushrooms: 1. Sprinkle a little salt on the spongy parts or gills of the sample to be tried, if they turn yellow they are poisonous, if black they are wholesome. 2. False mushrooms have a warty cap, or else the fragments of membrane adhering to the upper surface are heavy, and emerge from a vulva or bag; they grow in tufts or clusters in woods, on the stumps of trees, etc.; whereas the true mushrooms grow in pastures. 3 False mushrooms have an astringent styptic and disagreeable taste. 4. When cut they turn blue. 5. They are moist on the surface, and are generally of a rose, or orange color. 6. The gills of the true mushrooms are of a pinky red, changing to a liver color. 7. The flesh is white. 8. The stem is white, solid and cylindrical. 9. Introduce a silver spoon or a new silver coin, or an onion, into a vessel in which mushrooms are seething; if on taking either of them out, they assume a dark discolored appearance, the circumstance denotes the presence of poison existing among them; if, on the other hand, the metal or onion on being withdrawn from the liquor wears its natural appearance the fruit may be regarded as genuine.

Grape Vine Leaf Fungus.

107. WHAT affects enclosed grape vine leaf?
Reply by Prof. J. H. Panton, Guelph.

There is no doubt but the enclosed grape vine leaf is affected by fungoid growth, but too obscure for identification. Let the subscriber cultivate his vines so as to increase their vigor, and it is likely they will over-ride the attack.

White Hibiscus.

108. Do you know anything of a hardy White Hibiscus? Does it prove hardy in this climate? —L. F. SELLECK, *Morrisburg.*

Reply by F. Mitchell, Innerkip.

I have no knowledge of any hardy White Hibiscus, at least, of the Indian or Chinese varieties. These all require a high temperature. There are, however, native American varieties which I believe are hardy, but I have no prac-

tical experience or acquaintance with these; and they may be the ones referred to. Most of them have white or light colored flowers, somewhat resembling the common Mallow, but larger. Some of the Altheas were claimed to be hardy when first introduced here, but have not proved so. The only plants which can be classed with the Hibiscus and which are hardy here, are the Herbaceous Mallows.

The Garden Walk.

See page 207. A correspondent in London, Ont., writes: "Boiling water will destroy weeds in walks. This is a cheap and cleanly mode for small gravel or slat walks."

Owen Sound Beauty Plum.

109. I send you by express to-day (Oct. 3) three seedling plums for your inspection. Please let me know your opinion through that valuable paper The Horticulturist. The tree is a very rapid healthy grower, with thick broad leaves. This is the second year for bearing; the recent rain and storm of Tuesday night has spoiled the ripest and largest of the fruit. The tree is grown from a large red plum that is in this neighborhood, from suckers for the last twenty-five years. It is also supposed to be a seedling. I have named it the Owen Sound Beauty. Will give you a better description at some future date.—R. Trotter, *Owen Sound*.

The sample came to hand in good condition, and certainly well sustains the name given it by our Owen Sound correspondent. In appearance it very much resembles the Columbia, but is more juicy and of a better flavor for the dessert table. Mr. Geo. Cline's opinion is that if this plum is a good bearer it will be a most desirable one for the commercial orchard, both on account of its excellence as a dessert plum and its lateness of ripening. The fruit may be described as large, nearly globular. Skin brownish purple with a thick blue bloom on the sunny side, dotted with numerous fawn colored specks. Suture distinct, dividing the plum into unequal parts. Flesh orange, very juicy, rich and excellent, separates freely from the stone. Very good. September.

Covering Grape Vines.

110. Sir.—I have between eighty and ninety grape vines; they are Concords, Moore's Early, Rogers, one each of Pocklington, Amber Queen, August Giant, and half a dozen Germania. The Germania is a white grape. I had a splendid crop this year and ripened well, considering the wet fall. But what I want to know from you is, Is it necessary after pruning the vines (which I am now doing), to take them off the trellises and lay them down and partially cover them? This I have been in the habit of doing every fall, with pieces of green sod. Now I am told that up west the vines are not taken from the trellises. If the trouble of laying the vines down can be avoided without injury to the crop, it would be a great saving. I also lay down my raspberry and blackberry canes by laying a bit of rotten sod on the tops, just enough to keep them down. You will kindly give me above information in the next issue of the Horticulturist.—James Rosamond, *Almonte*.

No. It would be very unwise in the county of Lanark to omit the precaution of laying down the vines in the fall. South of Lake Ontario vines are usually left up, but no doubt it would pay even here to lay them down and cover them with a little earth, in the increased yield of fruit. You are also wise in protecting your raspberry and blackberry canes.

Pear Culture for Profit.

111. I am thinking of planting out a small pear orchard; would like to have your opinion as to the advisability of such a proceeding. Is there a good demand for pears at paying prices in our Canadian cities? If so, what varieties would it be advisable to plant? The soil is clay loam; fruit would have to be shipped by rail. Locality—about thirty miles west of St. Thomas, ten miles from Lake Erie. R. Hine, *Dutton, Ont.*

A pear orchard may be planted in any part of Southern Ontario, on clay

loam, with a reasonable prospect of fair returns, but we would not feel justified in assuring our correspondent of any extraordinary profits. Only this season the writer has had some 50 bls. of Barletts slaughtered in a glut in the city of Montreal at from $2.00 to $4.00 per barrel, and expenses to be deducted. For a while Toronto market was also glutted That is over now, and Louise and Duchess are selling at good prices. As a rule, from $4.00 to $6 00 per barrel may be reasonably expected for all good varieties of pears in our city markets, but better prices may often be obtained in small towns north of our fruit regions than in such cities as London, Toronto, and Montreal.

With regard to varieties, there are many that are promising, but we would recommend for summer pears Doyenné d'Ete, Rostiezer, Clapps' Favorite and Bartlett; for fall, Duchess and Louise as dwarfs, and Beurré d'Anjou and Doyenné Boussock as standards; and for winter, Lawrence, Winter Nelis, and Josephine d'Malines.

Facing Up Peaches.

112. THE other day a citizen bought from a Queen street fruiterer for $1.50 each two boxes of Crawford peaches. But when they were opened it was found that there was merely a layer of Crawfords along the top of each basket, and that all the rest of the contents were of a very inferior variety. Naturally the citizen was indignant, and he ordered the baskets back to the dealer, and asked that they be replaced by genuine Crawfords. But the fruiterer represented that he had bought the peaches for Crawfords, and was not aware that the baskets were loaded up the other way, and declined to make any reparation. The citizen then carried his appeal to the police authorities, and there was informed that he had no remedy unless he could establish that the dealer was aware that the fruit was not of the character represented. Now, is not this putting a premium on ignorance? It is all very well to argue that the fruiterer buys in good faith, and is no party to the fraud committed by the grower and packer, but ought not he to ascertain that the fruit is of the kind ordered? and if he has been victimised he ought to seek his remedy against the shipper, just as the retail buyer should have his remedy against the dealer from whom he purchases. The retail dealer has no business to ask the public to share the risks he assumes in buying his stock, perhaps from growers of doubtful methods and questionable honesty, and when he sells a box of Crawford peaches that are not Crawford peaches, no matter whether or not he be a partner in the fraud, the customer has a right to protection, and a right to insist that the dealer shall know what he sells, and, where the goods supplied are not according to sample and representations, he ought to fill the conditions of sale or refund the money. Besides, a great deal of the most objectionable "facing" is done, not by the fruit-growers, but by the storekeepers, who, by covering up bad fruit with good, make to-day's consignments of fruit carry off the remnants of last week's receipts. —*Toronto Globe.*

We have no pity to waste upon any grower or fruit-dealer who is found practising the contemptible trick of "facing" up his fruit with extra selected specimens, and concealing second class stock in the interior of the package. It is an old saying that "there are tricks in all trades except ours," and truly, if any class of men are supposed to be free from trickery, it is that to which the "honest farmer" belongs. But now it appears that even among that class there are some who love the dollar better than they do their fair name.

We wish to emphatically condemn such trickery as pure dishonesty, and unworthy of any respectable fruit-grower. It brings disgrace upon one of the most attractive, as well as most ennobling, of rural occupations—the culture of fruit trees and vines. Nor does it pay; for instead of making money he loses it. The shipper of such packages is soon "spotted" by dealers in our markets, and his fruit is looked on with suspicion, and sold at a discount.

On the other hand, it is quite possible to build up such a reputation for honesty in the market to which one ships that one's fruit is sought after, and even sold in advance at top prices.

This is done by grading one's fruit into classes, and always keeping each grade uniform throughout each package. A basket of second-class peaches scattered through several baskets of first-class ones will give the whole a second-class appearance. Our custom is to make three grades of most fruits, viz. :—extra, first-class, and second-class, and to mark the grade and name of the shipper upon the package. Any fruit unfit for No. 2 is thrown out or fed to stock.

We believe, however, that very few fruit-growers in Canada, if any, could be found who would do so mean a trick as the one above described. The temptation is great to place a shade larger and finer Crawfords on the top of a basket, but to face up an inferior variety with them is a meaner act than we can credit to any member of our fraternity.

Fruit Evaporating.

113. CAN you inform me where a good machine for evaporating fruit can be purchased? Any amount of apples go to waste in this section, and there is a good opening here for that business. The local market is glutted with fall apples, and there is not even a cider mill about. I have a thousand bushels of apples along the banks of river which are unfit for shipping. The CANADIAN HORTICULTURIST is just what I want in this section.—JOSEPH BOOK, *Rockford (Leeds Co.)*

H. D. Moody, 353 King street west, Toronto, makes a very good evaporator. The American Manufacturing Co., Waynesboro', Pa., also advertise evaporators.

Two Fine French Pears.

114.—I SEND you by express to-day two varieties of pears (three of each) that I suppose have not fruited before in this country

The Triomphe de Vienne is the pale yellow sort, which I fear will be overripe when you receive it. It fruited with me last year for the first.

The Belle d'Ecully is now in fruit for the first time here. It may not ripen up well, as I may have picked it too early. It is stated to ripen in France the last of August or early in September, but here it seems hardly in condition to pick yet. The trees seem to be very prolific bearers, and, if of good flavor, the size of the fruit should make them profitable for market.

I have budded stocks this season for the first.

The enclosed descriptions are from Transon Brothers' Catalogue, Orleans, France :—

Triomphe de Vienne—Fruit very large, and of good quality ; ripens middle of August. One of the largest pears known.

Belle d'Ecully—Fruit very large, 6 inches high and 1 foot in circumference ; flesh fine, very melting, sugary, and vinous ; ripening end of August and September. This tree is productive.—W. HOLTON, *Hamilton, Sept. 25, 1888.*

These samples came duly to hand, and in good order. The Triomphe de Vienne in general appearance resembles a large sized Bartlett, but is more regular in outline. The flesh is also similar in texture, being white, and exceedingly fine grained and buttery ; but it is, if anything, more juicy, and the flavor superior. It is truly a luscious pear, and will, no doubt, be a valuable addition to the few pears worthy of cultivation in the commercial orchard in Canada. Of the Belle d'Ecully we cannot speak, for it is still very green and hard in appearance (September 27), except to say that it is a very large pyriform, and would certainly never come into our markets at the time stated in the description above, but would probably be in season with our excellent Duchess.

OPEN LETTERS.

From Carleton Place.

SIR,—Any snow apples I have seen this year grown in this vicinity, are free from spot, my own are perfectly clean, whereas last year they were badly affected. I trust this immunity has been general throughout the country.

I did not spray my trees with Paris green, as I had berries, etc., growing under them, and in consequence some of them suffered terribly, others escaped with but few apples damaged by the codling worm. Grapes did well except a few of the late sorts, which did not ripen well on account of the cold wet weather in September.

The Niagara grape vine I got from you last year is doing well; and I have about a dozen young Jessie strawberry plants from those received this year; there were two or three berries on them, but they were neither very large nor very well formed. I will expect better results next year.

Plums did well. My trees averaged about one and a half pails (patent) each, and they are all young, say two to three inches in diameter, and they were worth from 75c. to 50c. per pail, according to time of picking.

I had the pleasure of meeting President McD. Allan, at Sault Ste. Marie, on his way west, as we were both staying at the same hotel. He seemed to be busy collecting information regarding the fruit growing capabilities of that pretty neighborhood.

Trusting that your most useful journal may have ever increasing prosperity.—WM. H. WYLIE, *Carleton Place, Oct. 12, 1888.*

Trees and Plants Tested at Maple Grove, Middlesex Co.

FROM THE ASSOCIATION.

1. *Fays' Prolific Currant* has done fairly well, and I have set some young bushes from it.

2. *Lucretia Dewberry* gave some few berries last year, and set a great many young plants and gives promise of an abundant crop this year. I much prefer the ordinary blackberries.

3. *The Niagara Grape* grew but got broken down, and is pushing bud from the root.

4. *The Doyenne Boussock Pear* that was sent to me this year shows some signs of growth.

FROM OTHER SOURCES.

Roses are my favorites and I find no trouble in growing them even from seed, of which I have some that has given me very good flowers. I shall have some new ones this season. Of the named varieties, the Gen. Jacqueminot gave me a good display of brilliant flowers until late in the season. Perfection des Blanches commenced quite early and continued until frost; Comtesse de Serenye is not as hardy as some, but is an excellent rose. La Reine has headed the class in the way of large flowers, and blooms on till late in the season; but with La France I never had any success whatever. While for early bloom I have what is called the White and Yellow Scotch, they come in first, and in mosses, White Perfection is the hardiest here and gives a great many flowers. While Henry Martin and Aphelis Purpurea are very good, Eliza Rowe, I think is the sweetest. I also have monthly roses which I winter in the cellar and set out in the spring and they will repay a little extra trouble.

I also have an assortment of other roses without any particular name that I know of, that help to make a good display in front. I find that the cold of last winter has injured the Almond, Deutzia, Variegated Weigelia, Althea, Bignonia Radicans, and some native shrubs for which I have no name. Prunus Simoni lived through it all and is started in growth again. Calycanthus Floridus, Hardy Hydrangea, Syringa grandiflora, Honey-suckle, Standard and Purple Barberry has come out unharmed. The Yucca filamentosa came through the winter nice and green, but the late frosts after the snow went away discoloured its leaves badly. It is an extra good plant for the border, but it does not like to be disturbed after it is once established. It is better to hoe the soil, mixing lightly in well-rotted manure. The new Japan Iris is far ahead of the old kind and about just as hardy. The various varieties of Campanula (Canterbury Bell) make an excellent show in summer; while who could wish for a finer display than what a group of fine double Holyhocks make later on in the the season. For all summer flowers the Carnation and Picotee, if carefully handled are excellent garden friends. Some of the newer Chinese Peonies are well worth the little that they cost, and there is no flower better able to take care of itself than it; while there are a great many different colours. To those who like the trouble of raising bulbs from seed they can add to their stock of choice plants by saving a few seeds from their best flowers and plant them the following spring in well prepared seed beds, they will bloom in one, two and three years.

NOTE.—The name of the writer of above letter was omitted by mistake.—ED.

Report from Middlesex—The Catalpa—Puritan Potato—Champion Dwarf Tomato.

SIR,—In reply to your request regarding the Catalpa, I received mine in the spring of 1885. It made a strong shoot of nearly three feet, but in the spring of 1886 I found it was frozen dead to within seven inches of where the new growth started. I then moved it to a more sheltered spot, but each spring found it frozen back. This summer it has made a very strong growth and I think it will yet grow to be a tree. The best specimen of the Catalpa I have ever

seen in Canada was growing years ago at Sandwich, a tree with a trunk fully twelve inches in diameter.

I was pleased to see your friend Mr. Selleck's account of the Puritan Potato. I also got a peck from Peter Henderson and I can fully indorse all your friend says of the Puritan. Next to the Puritan I think there is no potato equal to the Rosy Morn. Your friend seems to have had no luck with his Tree Tomato. I do not know where he got his seed, but I got a packet of seed of the "Champion Dwarf Tomato" from Peter Henderson, which seed was sown in a hot bed about the tenth of April and I think every seed grew, as I raised over sixty plants, thirty of which I planted out in June and I may say I never had better tomatoes, a good size, very even and smooth, flavor excellent. Each plant yielded from a peck to half a bushel. The balance of the plants I gave to my friends who all said they never had better tomatoes. A market gardener who grows every year over half an acre, asked for some to save for seed. In color they somewhat resemble the Acme, between that and the Hathaway.

The pear I got this spring has made a good and healthy growth and I trust I may be spared to report the fruit.

I hope to get you a few new subscribers this fall. I consider the report of the Entomological Society worth far more than the dollar I paid in. If farmers and fruit growers would study their interest, your membership should be doubled and much sunshine would be added to their homes every month when they handed your valuable journal to their wives and daughters.

Wishing you and the society every success.—CHAS. JAS. FOX, *Delaware, Ont., Oct. 6, 1888.*

OUR FRUIT MARKETS.

Montreal.—Heavy Apple Exports.

THE continued heavy shipments of apples from this port bears out our former statements regarding the abundant crop of fall fruit, as they have surpassed all records of previous seasons to date. For week ending September 29, there were shipped from this port 21,796 bbls., making a total of 36,499 bbls. for the season, against 13,155 bbls. for the corresponding period last year. The aggregate shipments from all the Atlantic ports last week were 50,597 bbls., making a grand total of 114,599 bbls. for the present season against 79,632 for the same period in 1887, showing an increase of 34,967 bbls. The disposition of last week's shipments from this port were 5,687 bbls. for Liverpool, 6,553 bbls. for London, 9,356 for Glasgow, 200 bbls. for Bristol, 29 bbls. for Hamburg, and a small shipment to Paris in boxes. It will be noted that the exports from Montreal last week were ahead of those from New York, which dealers remind us never occurred before at this season. Some large sales of New York State apples have been made to Montreal shippers, 7,000 bbls. of Kings having been sold to one firm, costing from $1.25 to $2.20 per bbl., or an average of $1.75 per bbl. laid down here. Several car loads of winter fruit have arrived and were disposed of at $1.90 per bbl. Several round lots of New York State Baldwins have been sold at $1 to $1.25 per bbl. at points of shipment. Western winter apples in this market range from $1.75 to $2 per bbl. Montreal Famense have sold at $2 in large lots at the orchards, and are being resold at $2.25 to $2.50. Latest reports from England are discouraging owing to the large shipments now arriving there. A private cable was received in this city to-day from Liverpool which read:—"Stop shipping." Exporters therefore are apprehending slaughter sales, and state that they will be surprised if their expectations are not realized.

Messrs. Simon, Shuttleworth & Co. cabled Wednesday's Liverpool market to Mr. Walter Webling as follows: Baldwins 11s. to 13s., Kings 18s. to 20s., Greenings 10s. to 12., Ribstons 12s. to 14s., Cranberry and 20 oz, 11s. to 13s., Jennettings 8s. to 10s., Calverts and Gravensteins 10s. to 12s. Only the choicest fruit fetched the outside quotations, and the market is very flat except for fine grades of sound fruit. Present supplies exceed the requirements, but the prices are now down to a point which will largely increase consumption.

Messrs. Garcia, Jacobs & Co. cabled Wednesday's London market as follows:—"Ribstons 17s. to 19s., Jennettings 9s. to 11s., Calverts and Gravensteins 10s. to 12s. Quality and condition are being well paid for, but lower grades and conditions are very weak."—*Trade Bulletin, Oct. 5, 1888.*

Low Prices Explained.

THE low prices which have been made in the English markets are due to the enormous quantities of fall apples which went forward. London had still plenty of small fruit on hand, and this had also a bad effect on the prices.

I have constantly been saying not to ship inferior kinds, and what was the bulk of the apples which have been shipped? Not two-thirds of the different varieties were wanted in the London market.

The crop being very large nearly all over the States and Canada, shippers must pay special attention to the varieties and packing.

London wants only the best fruit. I am convinced that *good* winter apples will do well.—JOS. HELLEMANS, *Montreal, 12th October, 1888.*

Losses in Apples.

SHIPPERS complain loudly of the losses lately sustained on their consignments to Great Britain, some having lost $1.00 to $1.25 per bbl. This, however, was not unexpected after the

glutted condition of the English market with Canadian and American fruit became known. On this market a little better demand has been experienced for choice sound fall varieties at $1.35 to $1.40 per bbl. Snows have sold in a jobbing way at $1.60, and Montreal Fameuse at $2. Winter varieties are quoted all the way from $1.90 to $2.15 and $2.20, according to packing and selection. Several English orders, we understand, have been filled at $2.15 for choice varieties. On the other hand, some quote sales of winter fruit as low as $1.75, and others again say that the transactions referred to at this figure were short sales.—*Trade Bulletin, Oct. 19.*

Philadelphia.

MESSRS. PANCOAST & GRIFFETHS make quotations as follows under date of Oct. 15:—Apples are in light supply, and the market is firm, under a good demand. Pears are in fair demand and steady, under moderate supplies. Grapes are plentiful, but sell readily at quotations. Cranberries continue firm and active, with supplies well cleaned up. Apples, Maiden Blush, Gravenstine, Twenty Ounce Apples and Black Detroit, choice, per bbl., $2.40 to $2.50; apples, other well colored, per bbl., $1.75 to $2.00; apples, Genetting, Colvert Pippin, etc., per bbl., $1.50 to $1.75; apples, windfalls and common, per bbl., $1.00 to $1.25; quinces, per bbl., as to quality, $2.00 to $3.50; pears, Seckel, per bbl., $6.00 to $8.00; pears, Duchess, per bbl., $3.00 to $4.50; pears, Virgalieu, per bbl $2.00 to $4.00.

Liverpool and Glasgow.

MESSRS. GREEN & WHINEVAY, K 30 Exchange Buildings, Liverpool, send apple catalogue of 3,565 bbls. American and Canadian apples, sold during week ending 6th Oct.

Baldwins sold from 10s. to 14s.; Kings, 11s. to 20s.; Greenings, 9s. to 10s.

NEW YORK, *October 15th, 1888.*

DEAR SIR,—Messrs. J. C. Houghton & Co., Liverpool, advise by cable that American apples are lower there in consequence of heavy arrivals. The parcels ex. steamers "City of Rome," "Wisconsin," and "Michigan," together with part of those ex. "Celtic," were disposed of today at the following range of prices:—Baldwins, good, 11s. to 12s.; Baldwins, ordinary, 10s. to 10s. 6d.; Greenings, 8s. 6d. to 11s.; Spitz, 10s. 9d. to 12s.; Northern Spy, 10s. to 11s. 6d; Kings, 13s. to 18s.; Boston Baldwins, 9s. 3d. to 10s.; Hubbardsons, 9s. 3d. to 9s. 6d.

Messrs. James Lindsay & Son, Glasgow, cable the following prices in that market:—Baldwins, 10s. to 13s.; Greenings, 10s. to 11s.; Canada Red, 12s. to 13s.; Snow apples, 11s. to 12s.—DE LONG, MAYER & CO., per JOSIAH RICH.

Covent Garden, London, England.

MR. J. B. THOMAS, of this market, writes as follows:—Our market is much more decided. The weather is becoming colder. Pears and plums nearly over; apples are therefore being enquired after. Large arrivals from Nova Scotia are expected, but our market can take there. Good colored, fine fruit, honestly packed, will at all times find ready buyers, at fair, if not high, prices.

It may be of interest for you to know that the English potato crop will only be two-fifths compared with last year; and the Scotch and Irish crop is also considerably reduced.

Closer Connection with the English Consumer.

SIR,—Looking over your last month's issue I read a letter from one anxious to make the bond closer between consumer and grower.

We in England are somewhat slow to adopt any radical alteration in business principles, however paramount the importance and conclusive the evidence of success in the improvement.

This principle of producer getting as near as possible to the consumer has been trumpeted often enough in our papers, but our producers do little towards helping themselves in this matter, partly because probably their capital is exhausted just now without fresh enterprises, and secondly because commission salesmen and buyers are so numerous, and profits are cut so small that it hardly pays the uninitiated to attempt improvement on that side in this country.

But with regard to the enormous shipments from Canada, this seems to me different. For producers to reach actual consumer at the distance of 3,000 miles is too much to hope yet. But that the intermediate profits might be reduced, seems certain. You cannot, Mr. Producer, touch our English consumer who rarely buys more than his day's supply of fruit, and could not be persuaded to try a barrel of apples even if you offered it at one dollar. Nor can you improve much if you take the next step, *i.e.*, the retail fruiterer. Few indeed of these buy more than two days' supply, at most two or three barrels. But the next, the wholesaleman—the market salesman it seems to me should certainly be your limit—he can (if anything like a business) take at least his 100 barrels of mixed sorts, say 20 Baldwins, 20 Spies, 20 Greenings, 20 Kings, and 20 of any other kind in season, whilst special traders would order their 100 Newtowns in addition. If there are no advantages in ship rates in quantities over and above this, then I am surprised this step I as not been taken long ago. I for one am quite ready to begin by lodging my references and offering to pay on bill of lading for a trial shipment, and so procure my own goods direct and save time attending sales and running risk of getting various brands and qualities, and giving the shipper the increased profit on his goods.—F. J. SMITH, *Fruit Salesman, Spitalfields Market, London.*

Grand Trunk Railway Favoritism.

IT is reported to this office that some apple shipper in Ontario has a private agreement with the Grand Trunk Railway which gives him a through rate from Western Ontario to Liverpool of 48 cts. per barrel!

We hope this is a mistake, but we are assured of its truth. Such favoritism is unfair. We all should stand upon an even footing in this matter, and if such a contract is given one, it should be allowed us all around, instead of the $1.00 rate now charged us.

This new grape originated in Canada, and seems to be a cross between the Delaware and some purely native variety. In habit of growth, hardiness, quality and size of cluster it resembles the Delaware very much, but it ripens with the very earliest, has larger berries, and so far has been free from rot and mildew, even in places and seasons where everything around it mildewed. It has stood, unprotected, 35° below zero without injury. Very sweet as soon as colored, skin tough, but thin, pulp tender, juicy, of delicious flavor, and entirely free from foxiness. Imagine a Delaware free from rot and mildew and early as Champion, and you will have a fair idea of this most valuable new variety. It never drops off its stem and when ripe gradually shrivels and dries up into raisins.

THE

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THE MOYER GRAPE.

ALTHOUGH we had prepared a colored plate of greater excellence from an artistic point of view for this number, yet we readily give place to this one of the Moyer grape because it represents a Canadian hybrid. We believe it is the duty of our Association to encourage originators of seedling or hybrid fruits in Canada, with the hope of discovering those best fitted for our climate, just as much as it is our duty to protect our membership against humbugs.

The year 1887 brought under our notice two new varieties of grapes of Canadian origin, one white and one red, and both apparently of fair promise. The white one originated on the banks of the Ottawa, and is fully described by Mr. P. E. Bucke in his article in this number, from which it is evident that he is fully convinced of its excellence. Some sample bunches were received at this office a few weeks ago, and impressed us favorably both with regard to size of bunch and excellence of flavor. Beyond this we can say nothing definitely until the grape has been generally tested.

The other one referred to is the subject of this article, the Moyer, concerning which also we can say but little, either in the way of recommendation or disparagement, until we have tested it on our own grounds, and it has been tried in various parts of our Province. Mr. Allen Moyer, of St. Catharines, after whom the grape is named, claims for it many points of excellence, which are now being retailed in the American horticultural journals. We hope soon

to secure enough plants for distribution and thus have it properly tested.

The grape was produced about eight years ago by Mr. W. N. Read, of Port Dalhousie, Lincoln Co., Ontario, by fertilizing the Delaware with Miller's Burgundy. The quality is very good, the flavor being sweeter than the Delaware, though not quite as sprightly. The bunch is about the size of the Delaware, though not always shouldered; while the berry is a little larger, and the color a good deal darker red. The skin is thin, but tough enough to make it a good shipper. When overripe the grape gradually shrivels up and dries into raisins. The vine is said to be vigorous, though a rather short jointed and compact grower, so it may be planted much nearer than such strong growers as the Concord. It is also claimed that it is very hardy, and entirely free from mildew.

As with the Northern Light, one great point made in favor of this grape is its earliness, ripening in Lincoln county about August 15th, and a couple of weeks in advance of the Delaware.

DISPOSING OF THE APPLE CROP.

THE month of October, usually one of the brightest of the whole year in Ontario, was this year one of the most dismal. It seemed as if October and November had changed places to try the patience of the anxious fruit-grower. As a result the apples in many orchards are still ungathered in the first week of November, excepting those which have been blown down by the winds. There are few apple buyers about, and freezing weather may soon be expected, so the question, "What is best to do with my apples?" is not easily answered.

One of our neighbors who has just received a cable quoting prices in London, Liverpool and Glasgow, says: "Unless I receive more encouraging news by the time I have my apples gathered and packed, I will roll them into my cellar." Another says: "I had an offer from a shipper of $1 to $1.15 per barrel for my fruit as it lay in piles in my orchard, so I sold at once." Many have accepted an offer from the Canning Factory Co., who buy at 25 cents per bushel every kind and quality, and ship the choicest and evaporate the rest.

Well, if it will pay a company to do this, surely it will pay our larger orchardists to do it for themselves. A writer in the *Farm and Home* who lives in Maine, speaking of evaporating apples, says:

"If orchardists want the greatest returns from their trees, they must be prepared to dispose of their products in the most economical and profitable way. I have found that to evaporate second quality apples is a good plan, but the fruit must be taken before it is dead ripe, the expense depending greatly on the condition of the fruit, whether it be badly bruised and soft or not. The fruit I evaporate is nearly all from grafted trees and averages 6 lbs. per bu.

The average natural fruit will make 4 lbs. per bu. ; Baldwins and Greenings, 6 to 7 ; Russets, 8.

My average expense for evaporating and boxing has been 3½c. per lb., or at the rate of 20c. per bu. About 10c. is the average price at wholesale for evaporated apples. I use an American evaporator that is intended for bleaching apples, but it is not desirable. The dry fruit should be bleached from five to eight minutes in a separate place, and as soon as it is cut and spread on the trays it should go thence directly to the evaporator. There will thus be no complaint of smell or taste of sulphur in the apple. Another fault I found with my evaporator was that it was built to take the apples into the top and deliver them next the furnace. In this way it is impossible to keep the desired amount of heat without scorching the apples. I improved this by entering the apples over the furnace and by taking them out dry at the upper end. Steam heat in pipes would be much more economical than furnace heat.

" Expenses for making this crop saleable doubtless vary in different localities. My apples are cut and placed on trays by women at 60c. per day. A man is employed to attend the evaporator and he is paid $1. Six hands dry, on the average, 150 lbs. per day. One must not expect to get rich drying apples. The fuel costs me $3 per cord. When one has a quantity of apples hardly fit for market, he can get a fair profit by drying them. I consider it safe to dry all that are not worth $1 per bbl. at the door without the barrels. The fruit is sometimes quite scabby, and when it is so afflicted it seldom pays to pack it for market. I put such fruit through my evaporator and think it pays."

The same difficulty in getting the apple crop properly harvested and packed in time for shipment is evidently experienced by our neighbors in New York State, as will be seen from the following extract from the *Country Gentleman* of Nov. 1, written by a resident of Wayne county :

"All through this section from Oswego to Rochester, a distance of seventy-five miles along the lake, the apple crop is very large and of fine quality, and not more than one-half gathered. A great many have sold their orchards in a lump to the evaporators. Others shake and sell to the evaporators by the one hundred pounds, they paying from 30c. to 32c. per hundred delivered. This makes a rapid way to handle them, as a large crop can be gathered in one-quarter the time it would take to pick them, and with labor high and scarce as it is this fall, I think it pays as well as to pick and barrel them at present prices. Kings brought $1.75 to $2. Dealers are now paying $1.25 per barrel for winter fruit, but as most large orchards are not yet gathered there is very little shipping being done."

"Why don't you ship to a British market?" we asked a neighboring orchardist. "Ah!" said he, "I have tried that once too often already." The trouble is very few people will take the trouble to grade apples as they should be when they must have so much expense put on them as exportation involves. How many separate their first-class apples into large and small sizes ; or pack the large high colored ones separately as extras ? Are these not more often used to face up the inferior grades? And as a result the whole lot sells, not for superior fruit, but for the price of the inferior quality, of which the bulk of the barrel is found to consist.

Unless one is prepared to undertake all this trouble, it is no doubt better to sell at home for any certain price, rather than risk a dead loss by shipping to a very distant market.

THE SEASON AND THE CROPS.

By John Croil, Aultsville, Ont.

THAT often talked-of individual, the oldest inhabitant, can't tell us of a season like the past one. At the time of our summer meeting in July, the country through which I passed from Brockville to Picton, and all the surrounding district, was suffering from long continued drought; no rain, I am told, had they had since their seed time. I saw the mowing machine at work, but very little to gather after it. Barley and other grain was ripening prematurely. I was told of one farmer, owner of a good hundred-acre farm, who expected to take in his whole crop to the barn in one wagon load, and many farmers would hardly get their seed back. Here in Stormont we were more favored. Although we had a short time of hot weather in July, it was not of so long continuance as to injure our crops. About the middle of August a wet time set in, and since then a fine day has been the exception. Doubtless many who read these pages have seen the seaport town of Greenock in Scotland, notable for rain. Thirteen months in the year, the sailors say, it rains there. Remember, too, they may, the wee laddie's answer to the traveller's inquiry, "Does it always rain here?" "No, it whiles snaws." Well, besides the drenching rains of these months we have had hard frost and snow too; everything tender is nipped. Grapes, corn, melons and such things as require our full summer, have ripened but imperfectly. Yet on the whole, we have reason to be thankful for the year's production; enough we have for man and for beast. The vegetable garden did well. Of the varieties we tried in

Beets.—Edmond's Early Turnip is deserving of all the praise given it in the catalogue. Exceedingly sweet and tender in quality, very deep blood red in color, and of good marketable size, we find them preferable to all others.

Carrots.—Danver's Half Long Orange, although not a novelty, is worthy of notice as one of the best kinds for family use.

Cauliflower—Vick's Ideal. The best kind we ever raised; quite early; large handsome heads, often weighing 10 to 12 lbs.

Corn.—Early Corn, for earliness takes the lead; the ears are of good size, and fair quality. For late use, Stowell's Evergreen still stands unrivalled.

Cucumber.—Burpee's Giant Peru, of large size, perfectly smooth and straight, we value more as a novelty than from any extra excellence in quality; the same may be said of a kind growing bright yellow, the seed of which Mr. Goldie, of Guelph, picked up in his travels in Holland.

Celery.—Nelles' Self-Blanching surpasses in quality all the self-blanching kinds we have tried. Solid, crisp and of delicious flavor.

Cabbage.—Extra Early Express.—The earliest, solid, good-sized heads, just the thing for market gardeners. We had some enormous heads of Burpee's Sure-head (late variety).

Peas.—American Wonder we sowed as late as 18th of August, too late for the blackbirds, as they had migrated. Quite as much of a treat as the early sowed ones, and more of a rarity.

Passing on to the small fruits :—

Raspberries, Currants and Gooseberries were a good crop, but the birds claimed the lion share.

Strawberries did well. Twelve rows, each 300 feet long, of mixed kinds, yielded about 1000 quarts ; this was the third crop. The previous year we had a rather smaller return from 26 rows of the same length. And that year the Wilson turned out so badly, I ploughed them all under except two rows ; these two were as good as any I had this year. We must hold on to the old Wilson yet.

I planted three-quarters of an acre of strawberries, Oct., 1887, and three-quarters of an acre this spring. They both did well, but the spring planted ones gave the least work. The wet season has prevented us hoeing or cultivating for the last month, and the weeds have so much got the mastery, I fear there will be no third crop this time.

The orchard, which for many years has given us more trouble than profit, has been a success. The Black Spot, which ruined our fruit and nearly ruined us, too, has nearly disappeared, and our crop was enormous. The fruit was rather small in size, but fairly marketable. We have just finished hand-picking 500 barrels. If any readers think that's all fun, let them try it, but I would recommend before beginning to have a bottle of St. Jacob's Oil on hand ; they'll quickly find out what it's wanted for. Neighbors tell us we will surely make our fortune this year from the orchard. Strange that few of them, during these many years of dire calamity, didn't feel as much disposed to condole with us when we were losing one (if we ever had one to lose). We can boast nothing of years here, but I can of our good Secretary's crop, he being too modest to do it himself. I have it from his own pen that his extra selected apples have been selling in London, England, as high as $6 00 per barrel. As he has an immense orchard he must surely be making his fortune, and lest he be exalted over much, I think we will have to vote down his salary. Now, he'll bid me shut up, so, admiring the patience of all who have so far read, I close.

AMONG THE STRAWBERRIES.

By John Little, Granton.

Sir,—Will you kindly give me a little space in your excellent monthly to say a few words about the strawberry. All my out-door time is spent among them, and my dreams at night are often about them.

Allow me first to say something about my visit to a few enthusiasts, who are also in the small fruit business, during the raspberry gathering.

My first visit was to J. Whitston St. Marys ; he is a careful cultivator

and grows large crops both of the strawberry and raspberry; he does not ship, but disposes of all his crops in the thriving town of St. Marys. I found one plot of strawberries badly infested with the strawberry root-worm.

My next visit was to F. Mayer, Bridgeport. He was in the midst of his red raspberry picking. It would be hard to find such Clarkes as those were. Although they were staked and wired, they were so thrifty in cane it was difficult for the pickers (women) to get through them; his land is well adapted for fruit; it is a rich sandy loam. Also he has a promising young nursery of budded plums, cherries, pears and hardy apples—budded from stock had from Mr. J. L. Budd, of Iowa Agricultural College. I spent one night and two days with him, and was hospitably entertained, he giving me a drive in his carriage to Waterloo and Berlin.

My next visit was to the noted strawberry grower of Ohio, Mr. Crawford. I expected to be with him at the horticultural meeting at Euclid, Ohio, on the 7th of September, but did not get to Cleveland till the 8th. I spent 14 days with him and his excellent wife, going with him here and there among the fruit men in the neighbourhood in which he lives.

It would occupy too much space in the HORTICULTURIST, and might not please many of the readers, to tell what I saw and heard and learned about the strawberry whilst at friend Crawford's.

It has always been a treat to me to visit Mr. Crawford's strawberry home; his grounds are kept in such good order, and his beds are so clean, and rows so far apart, that the different varieties cannot get mixed. I was surprised at his fall plant trade; mostly every day during my stay his sons were busy filling orders. One day they expressed eight half bushel baskets of potted plants at once. Mr. Crawford attends to his correspondence and also to his books; his varieties are up in the hundred, and the seedlings sent to him for testing are about forty. His experience with new varieties, and what he says about them, can be relied on, and is of much value to all engaged in strawberry growing.

I have all the varieties in his report, and I send it to you. It will save me a good deal of trouble in writing about them, as my experience is about the same as his.

This last strawberry season I had the largest berries, and the best return I have had in some years. I head the list with Jessie, Bubach, Summit, Ontario, Pineapple, Manchester, Cumberland, Triumph, Mt. Vernon, and some of the old varieties of seedlings sent for testing. Eureka (Logan-Itasca), several of Mr. Louden's seedlings also gave very large berries and are productive.

If your correspondent "G. J. R." will do as I did—go to the home of the Jessie in the fruiting season—he will see where the productiveness comes in; or to many places in Canada where they know how to grow the strawberry. Some men when they get a few plants of a new variety, expect too much from it and kill them with kindness: others don't know how to plant and care for him, and so to them they are worthless.

THE NORTHERN LIGHT.

By P. E. Becker, Ottawa.

THIS new claimant for public favor is a white, or rather, green grape, with a slight green bloom. It originated on the banks of the Ottawa some nine years ago, and has produced five crops of fruit. In 1887 it was exhibited for the first time at the United States Pomological Societies' Exhibition at Boston, where it received marked attention from several leading grape cultivators. Some first class offers have been made for the vine, but none have yet been accepted, as it was thought best to have a limited number of plants propagated and tested in the States and Canada.

Although the present position of the vine is not favorable for early ripening, being shaded for several hours by a stone building from the morning sun, it has invariably ripened its bunches under very adverse circumstances every year, when Concords and several of the leading varieties, such as Niagara, Pocklington and many of Rogers' hybrids, have failed to mature. It is confidently expected that when the vine is placed in a favorable position and carefully pruned and attended to, the fruit will ripen shortly after the Champion.

The vine is a vigorous grower; it has a thick, leathery leaf, of the Concord type; The bunches are well formed, sometimes shouldered, compact; berries round and large; bunch rather long; berry not pulpy; seeds separating freely; skin rather thick; fruit melting, juicy, no foxiness in taste or smell perceptible; fruit stalks and tendrils—especially the latter—red to pink in color.

Already many enquiries have been received from leading nurserymen for vines, and good offers for its purchase have been made. It is hoped by the end of 1889 the owners will have some eight hundred or a thousand vines to dispose of, as they have placed it in the hands of an experienced cultivator to propagate. By the end of next year it is hoped a test on a small scale will be made in several localities at wide distances apart, on varied varieties of soil. When this has been done, and if the test proves successful, the entire stock will either be sold out, or a strong company formed for its propagation and sale. The enormous crops the vine has yielded for the past four years is something almost incredible, and would not have been permitted had it been in the hands of an experienced vineyardist; the effort to ripen the fruit has retarded the ripening of the wood. Its northern home will give it an advantage over its more southern brethren: it grew up without care or protection, but for the last few years it has been covered with soil lest some fatality might overtake it, and the life of this magnificent child of nature quenched; it was, therefore, thought best to guard it from every source of danger, especially as the mercury along the Upper Ottawa has several times become solid. The glass in this region sinks below zero on an average from forty to forty-five nights during each winter. The extreme cold appears to have given the plant and foliage their great robustness.

USES OF FRUITS.

Apple Butter.

About a year ago, you asked whether the making of the above was among the "lost arts," and, to judge by the recipe for making it which a writer gave you, I don't wonder. I will give you the old Pennsylvania plan that we used to make by, and which we still follow here fifty years later.

If people will follow this, and they then say the art is lost, I will quit giving instructions. To forty gallons of good sweet cider made from sound, ripe apples, use three bushels of selected apples. The cider should be boiled down to one-third or a little less before putting in the apples, which should be pared clean, all specks, bruises, seeds and seed cavities removed. They may be quartered, or cut into eighths, if very large. If in a hurry, the apples can be boiled in a little water before putting into the cider. Stirring should commence as soon as the fruit gets soft, and be kept up carefully until done. At all times prevent the flames of fire striking the kettle above the line of contents.

When boiled down to ten gallons it will be done, and it will be an article fit for a king. Put in earthen vessels, and, when cold, dip clean, white paper into good whiskey or brandy, and lay it over the tops. In four months from making, if kept in a garret (the best place), the jars can be inverted on a floor or shelf without running out. Will keep for years, and if made with the right kind of apples, such as Rambo and Smokehouse, or Bellflower, will become as smooth as cheese.

There are establishments out west here where they make what they call apple butter, but which the knowing ones call "sass," that sells for twenty-five cents per gallon. I would not take it bestowed, as it invariably ferments, and is a poor article at best.

Such as we make would command at least double as much, but even that won't pay unless one is fixed to make it on a large scale. But there are many things that can be afforded for one's own family use that cannot be made to sell at the market price.—*Vick's Magazine for November.*

Liquid for Preserving Delicate Tissues.

Water saturated with camphor - -	100 grams.
Chrystallizable acetic acid - - - - -	0 " 25
Chloride of copper - - - - - - - - -	0 " 25
Nitrate of copper - - - - - - - - -	0 " 25

The above is the formula of the French for preserving specimens of fresh fruit for purposes of exhibition. It is claimed that fruits of all kinds are kept perfectly fresh in appearance in this preparation for six months or a year.

Apple Pomace and its Use.

There is no better way to preserve pomace that contains no straw, than to store it in a silo similar to what is used for making ensilage of green corn fodder. Be sure to have the air excluded from the pomace. Pack the pomace in tightly, and on each layer, which ought not to be over one foot thick, sprinkle a little salt, which I think adds to its palatability. If the pomace is kept from the air, it will remain sweet and retain its bright color the entire winter. There is no secret in doing this, and any one can succeed who tries the experiment.

Where straw is used in making cider, I always take the pomace from the crib in square cakes, and pack it up closely, as you would anything else of a similar nature, to exclude the air as much as possible. I have made it in a square body about ten feet high, that kept sweet until used. Pomace certainly goes far toward feeding stock, if fed properly. Some advocate letting

the pomace ferment before using, but I find the reverse of this to be the better way. It would be a good deal like letting bread get too light or very sour before baking, and, at the same time, expect to have good, palatable bread. This is my experience, and I have fed a great deal of pomace. Do not feed it to your horses, as it is liable to give them pain, and does not appear to agree with them in any way.

Preparation of Fruit Syrups.

Everybody knows, says M. Manche, in the *Archives de Pharmacie*, that syrups prepared from the fresh fruit juices are far preferable to any others: but that these syrups, in their fresh state, contain a large amount of carbonic acid is usually forgotten. When the process usually in vogue is followed, and sugar is added to the juices in the cold, a liquid is obtained which soon becomes so dense that the acid finds it difficult to make its escape when heat is subsequently applied, and the consequence is foaming, and sometimes a partial caramelizing of the sugar, from the fact that the syrup makes a denser layer at the bottom while the lighter juice is forming on top. To avoid all this, M. Manche recommends that the juice be boiled before any sugar is added, replacing loss from evaporation by distilled water. The result is said to be better in every way.

Grape Juice for Use.

Pure grape juice, unfermented, is one of the most health-giving of things. The most strict temperance person can have no more cause to oppose it than the eating of fresh grapes, *i.e.*, pulp and juice together. Since we mentioned the subject last year, we learn of a greatly increased interest in it, and that large quantities of the juice are being prepared this year for preservation. We condense some statements on the subject:

The large and increasing grape product of Western New York is forcing a search for new markets, which is now finding vent somewhat in the making of unfermented wine for home use.

The great Frenchman, Pasteur, destroys the germs of fermentation by heating to 140° to 150° Fahr., without access of air. This is accomplished by running the liquid through a crooked pipe or "worm," something like the worm of a still. The apparatus in use at the Viticultural Station in California consists of a coil of one-quarter inch block tin pipe, 30 feet long, inserted in a 15 gallon boiler. A 20 foot coil of the same pipe forms the cooler. The capacity of this single pipe is 8 to 10 gallons per hour, when the tank water is kept at about 160°. To insure the success of the operation, of course, it is necesaary to insuro against the Pasteurized wines being again infected with germs by putting it into unclean casks, etc., after this treatment.

Another way: Pick the grapes from the stem, and wash. Cook with a little water, as for jelly, until soft; strain through a flannel bag. To a quart of juice add three-quarters of a pound of granulated sugar. Let the juice boil, and skim it; then put in the sugar, and cook until dissolved. Put, boiling hot, in self sealing jars or bottles, corked and sealed.

Sweetened juice: Mash the grapes and press out the juice. Before boiling, sweeten, as desired, with best white sugar; strain carefully; fill the bottles and seat them upon a wooden foundation, in a boiler; surround them with water up to the necks; bring to a boil and boil ten minutes; then, from one of the bottles, fill all the rest, to make up loss by evaporation, and cork them while hot; after corking, seal the corks; the sulphurous acid gas impregnating the juices, will be volatilized and driven off by the heat. This can be kept several years. —*Am. Garden.*

The Value of Apples.

THERE is scarcely any article of vegetable food more widely useful and more universally liked than the apple, says Prof. Faraday. Let every family, in autumn, lay in from two to ten, or more, barrels, and it will be to them the most economical investment in the whole range of culinary supplies. A raw, mellow apple is digested in an hour and a half, while boiled cabbage requires five hours. The most healthful dessert that can be placed on the table is baked apple. If taken freely at breakfast, with coarse bread, and without meat or flesh of any kind, it has an admirable effect on the general system, often removing constipation, correcting acidities, and cooling off febrile conditions more effectually than the most approved medicines. If families could be induced to substitute the apple—sound, ripe and luscious—for the pies, cakes, candies and other sweetmeats with which children are too often stuffed, there would be a diminution of doctors' bills sufficient, in a single year, to lay up a stock of this delicious fruit for a season's use.

MARKETING FRUIT.

Pears from a Marketman's Standpoint.

THE varieties of pears are so numerous, and the quality of each so peculiar to itself, that it necessarily requires study on the part of the cultivator to know just how to manage his crop. The early sorts need more care and management than the later, for they ripen early and are more exposed to the heat. Growers living near a market might with safety permit the Bartletts to color on the tree, but it would not answer to delay marketing after the fruit colors. If intended for the refrigerator, the taking on of the slightest color should be a hint to pick at once, as further delay might be fatal to its keeping. Should it be picked too green it will fail to color when taken out and placed under the influence of warm air. Most late varieties keep well in the refrigerator if picked at the proper time and carefully handled. The Seckel, Bosc, Shelden and Clairgeau are all considered first-class varieties, and are preferred according to the order in which they are named. If the last variety is put on ice it should be watched closely for fear it may spot. Should that symptom of decay make its appearance, the sooner the fruit is disposed of, the better. The Anjou becomes popular late in the season, being a good keeper and possessing a fine flavor. The extra large ones sell for a high price to fancy dealers, while those of medium size are used largely on the tables of hotels and steamships. While picking the fruit, one should be careful not to bruise it or to separate the stem, which is considered an ornamental feature. If picking for the refrigerator, cull out all imperfect fruit and sell it, for there is little demand for it after September.

There are several good packages used for shipping and among them is a bushel box. Some growers pack from the top, and when the box is full, lay strong, coarse paper over, then nail on old barrel staves for a cover. Others have a tight lid, then open the bottom and lay the fruit in regular rows until two rows are formed, then pack irregularly until full. Should the pressure injure a few, the fruit will carry without shaking, and on opening make a better appearance. Half barrels are good packages and sell well, but barrels

are generally objected to on account of the quantity they contain unless the fruit is very firm. Do not hold early varieties too long. They lose their flavor and the later ones coming in fresh and nice are preferred.—*American Garden.*

Handling Fruit for Market.

Cold storage will not make good fruit out of poor, Seckel pears into Bartletts nor bruised fruit solid. Much depends on the picking. If the fruit be left on the tree until fully ripe it will not keep; nor fallen fruit nor that whipped off the tree. The fruit should go to the cooler before any sound specimen shows ripeness, and a single pear, apple or grape that is imperfect may and probably will entirely spoil all that are put with it in the same package. The nearer to the cooler the orchard is and the sooner the fruit is stored after picking, the better it will keep. Where late winter pears and apples are stored they are often after late picking put in bushel boxes and stacked on the north side of some building to remain until quite severe weather before going into the cooler. These same boxes are then removed to their places in the retiring house and piled one on another with thin pieces of lumber between them to admit the air. Summer pears should be picked before they ripen and put in the cooler if the best prices are expected. To know whether the fruit is ready, raise a specimen carefully by putting the hand under it, and if it part readily from the tree, although it be "as green as grass" it is ready to artificially ripen. Pears that become mealy on the tree, often rotting at the core, are juicy and delicious if ripened in the low, steady temperature of the cooling room.

A great point regarding profits is in properly selling what is handled. A good reputation and neat packing are as necessary as good fruit. Attractive packages and surroundings often sell the fruit at once. So important is this that very choice cases of fruit often "go begging" for a buyer while handsomely arranged lots of inferior varieties in poor condition sell rapidly.—*F. & H.*

HORTICULTURAL.

Northern Spy Apple.

The diversity of opinion on the value of this apple is owing to difference of soil and treatment. The remark was frequently made when half a century ago this fruit was first introduced and disseminated, that it was smaller and more scabby on old trees standing in grass, with crowded and stunted branches, than on vigorous younger trees; and the difference was so distinct that it was pronounced absolutely essential to fair success, to cultivate the ground and to prune in the crowded branches. As a fair average, the apples on the vigorous, young, and well-pruned trees were at least twice as large as those from the old and crowded heads. Cultivators of this variety, who wish handsome and fine specimens, should bear this distinction in mind.—*Country Gentleman.*

Sheep in the Apple Orchard.

The advantage of pasturing sheep in the orchard has been frequently spoken of in these columns, but a letter from Mr. J. M. Drew, in the Rural New Yorker, emphasizes it still more in the following terms:—

A few days since I had the pleasure of seeing and learning of a successful

method of eradicating weeds. A large, mature orchard, overrun with wild carrots, Canada thistles, and a score of other weeds, was turned into a sheep pasture; or possibly it might better be called a sheep-yard, as about four times as many sheep were put into the orchard as could be pastured without extra feed. They were given a liberal allowance of bran and oil meal, with a little corn daily. This method was continued for four summers, at the end of which time the orchard had more than doubled in the quantity of fruit produced, while the quality had been much improved. The ground was then plowed and planted, but no thistles or carrots, and but few other weeds, appeared.

Mr. J. S. Woodward has about thirty acres in apples, which have been treated in like manner, with the exception of the plowing. He found that he could keep his sheep cheaper by this method than by hiring pasture. And now the result: Last year he sold nearly $7,000 worth of apples. And this is not all; the sheep kept in the orchard were bred early, and the lambs sold at an average of $9 per head; and these are not isolated cases. I met Mr. B. from Virginia, a few hours since, and he gave $8 per head as his average for early lambs last year.

As I came home from the State Fair, two days since, I saw a dozen starved and weedy orchards, and a hundred fields that seemed to cry from very hunger. Yesterday I purchased five sheep and two hogs, and how can I tell you how thin they were! True, they were just what I was looking for, for experimental purposes; but what reasons can these men give, in the world to come, for half starving their animals in this land of 19,000,000,000 bushels of corn and hundreds of thousands of tons of bran, oil-meal, and cotton-seed meal, and millions and millions of acres of land that would laugh with a hundred-fold crop if only a little more brains and manure were used.

FORESTRY

CLIMATIC RANGE OF TREES (Continued).

By Forester.

BESIDES the scientific interest we may take in the growth of foreign trees in our climate, there is a very material interest likely to be affected by the ultimate result or profit to be expected in a large plantation.

Knowing that the English Walnut, Pecan-nut, Filbert, Ailanthus, Catalpa and Locust are natives of a warmer land than Canada, and that some of them at times have been induced to grow here, and may be called hardy to some extent, I would hesitate very much to set out a large plantation here for the sake of the timber. In that part of Ontario called the Lake Erie counties in the Ontario Bureau of Industries, and probably from Hamilton to the River St. Clair, the following valuable trees seem to be at home: Black Walnut, Chestnut, Tulip Tree, Hickory, Buttonwood, and yet a very little to the north they are no longer found wild, and the limit within which they

can be considered reliable is uncertain.

I am studying the probable state of a plantation of such trees, or a long avenue set with them, and what condition will they be in at the end of twenty, thirty or a hundred years.

Very many of these trees in favorable ground, and with the timely assistance of man, are growing and doing well in this country quite to the north of the proper latitude and in a harsher climate, and some of them I think perfectly hardy, but if a thousand of each of them are planted now in the region where they grow wild and unaided, and another thousand of each are set in the northern or central parts of Ontario, how will they compare at the respective periods suggested?

If not cut off and sold to American lumbermen, such a plantation would be just getting grand in a hundred years, and would be a fine grove in twenty in its native land, and would probably renew itself indefinitely.

In the more inhospitable north, even of the trees we thought hardy, and which so generally do well and yield fruit in perfection, is it not likely that we will find an increasing proportion failing at each recount—giving evidence that it is only a question of time how long trees in exile will endure a severe climate without artificial aid?

At the end of twenty years the whole number of any of these varieties of timber may be living and doing well, and may be as valuable as any of its kind, or one half or any other part may be, and the rest may be missing; and although when so well established we generally think the trial over, it may be found that at thirty years the same trees are all, or nearly all, dead—cut off by their hard life, or matured before their time. At a longer interval none may be left to tell how they suffered.

I do not infer that it is useless to lay out a plantation of any but native trees—far from it. I think more valuable timbers may be introduced and so many reach a size fitted for commercial purposes that it may be a most desirable speculation. I can find no actual cases in America to test the facts, and it may well be that some of the most doubtful will really and finally be acclimatized, and that the forests of the future will keep some of the settlers we bring to it.

Some scientific writers tell us that the human race cannot be removed from one climate to another and endure forever—will gradually run out and give place to other types more lately removed; that the Caucasians have managed to drag out a miserable existence in America only by regular additions of new blood, and when no more emigrants wish to cross the water the time of those who have come will be short.

I cannot get evidence to settle this case any more than any other problem of the trees, but every century adds to our experience, and we are all interested in the argument, even if posterity only is in the result.

Humorous.

Editor visits a new plantation; says to his friend—"You are making a fine place of this with all your timber."

"Oh, yes, and I hope the trees will be grown to a good size before you come again!"

Editor looks a little curious.

EXPERIENCE WITH FOREST TREES.

By A. D. Ferrier. Fergus, Ont.

I WILL give you a few lines relating my experience regarding Forest Trees. In the year 1835, when I fixed on a site for my house close to Fergus, I determined to save some of the trees around the said site. As I was present daily, I got my choppers to leave such middle-sized trees as I fancied, and a few young ones, and I took care that no burning or logging was done to injure them. All the trees so preserved did well except the Beeches, which died out; and the rest, except two or three blown down by gales of wind, consisting of Elms, Maples, Basswoods, and a few Iron-woods, can be seen at this day. I did not plant any trees till about twenty years after, and since then, now and again, I have planted out a good many. For shelter I planted Norway spruce and Canadian spruce, which seems almost identical with the Norway spruce, and Balsam Fir and white Pine, and these almost never failed. For beauty I have planted out Elms, Maples, Basswoods, British Limes, Tamarac or Larch, and Scarlet Cherry; besides the various kinds of Poplar. I generally planted in April or May or October, and when I planted I gave each tree some water in the hole, and a watering on the surface, and then a mulch of straw, and left them to their chance. I kept the ground close to the tree clear of grass and weeds for three or four years, and then they are safe, as a rule. One thing, however, is absolutely necessary; the ground must be well fenced, as cattle take delight in destroying the young trees. Of course, I got most of my trees from the woods for the trouble of digging and carrying them, but I raised a good many elms in my garden from seed dropped from the old trees adjoining. I got Norway spruces and Lime trees from various nurserymen, and I raised some Austrian pines from seed. The Poplars are all hardy, but greedy of land, and throw out long roots, which send up young trees far and near, so I don't care much for them. The Hemlock is very pretty, but tender, and so is the Butternut, although both grew in the bush when clearing first began. The common Cedar is pretty, and hardy too, and both it and the Larch can be trimmed with the shears into handsome shapes. The common purple Lilac will grow in any soil, and makes a nice hedge, but is very greedy, and spreads fast. The Cedar makes a nice garden hedge and shelter. I never raised trees for sale, but I pruned a small round clump as high as I could reach with my saw, and when they were about fifteen years old I thinned them out, and got a lot of good larch, cedar, and fir posts. I always prune off the lower branches of the young fir trees and larches for about three years, and the hardwood trees I prune close for about seven feet above the ground. The borer attacks Maples, Basswoods, and Limes, but does not touch the elm.

The Canadian Horticulturist.

SUBSCRIPTION PRICE, $1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

THE ANNUAL AND THE WINTER MEETINGS of our Association are henceforth to be united into one, and to extend over three days time. The result will be, no doubt, an unusually large and interesting gathering. The meeting will be held in the city of Hamilton in February next, a city situated in the heart of the fruit growing districts of Ontario. Several gentlemen have already promised papers for this meeting, and in order that it may be as varied in programme as possible, we invite members of the Association to send in questions and subjects for discussion, a full programme of which will appear in January No.

NEW GRAPES.—We call the especial attention of our readers to the valuable letter from Ampelograph, upon "*New Grapes.*" This letter deserves a more prominent place in our journal than the one it occupies.

AUTUMN WORK AMONG TREES.—This is the title of a recent editorial in *The Garden and Forest*, which takes the ground which we have often advocated for Canada, that for our climate spring planting of trees is safer than fall planting. Although, with care, the hardier trees may not be winter killed when planted at this season, yet there is more or less danger of their upheaval by frost, or blown about by the wind. All this has come within our own experience, both with standard apples and dwarf pears. Stone fruits, particularly peaches, should never be planted in the fall in Canada. We give emphasis to this precaution, because so many articles written by nurserymen who are interested in fall sales, have found their way into the public prints, advocating fall planting as the most advisable. No doubt this is the best season for selecting the stock from the nursery, before the best is culled out for spring sales, and if one has a dry sandy loam in which to dig a pit and partially bury the trees

until spring, it would be wise to purchase the stock in the fall. In such a case, the bundles should be untied, and the earth carefully packed among the roots.

THE PARIS EXPOSITION, 1889.—This Universal Exposition at Paris will open the 5th of May, and close the 31st of Oct., 1889. The U. S. Government is making special arrangements for a good exhibition of American industries, having appointed special Commissioners who give all information to intending exhibitors, and arrange to forward *free of freight between New York and the Exposition* all articles received for exhibit. The U. S. Commissioner of Agriculture is also appointing special agents to assist in the display. For instance, Mr. B. F. Clayton, editor *Wine and Fruit Grower*, has been appointed special agent to collect an exhibit of the viticultural products, and in this he proposes to include the following interesting sections:—

1st. The grape is to be illustrated in its fresh state, and so far as practicable, in all its phases of development, including planting, cultivation, training, methods of harvesting, and preparing for market. These processes will be necessarily illustrated by photographs or drawings, accompanied with brief, concise explanatory notes. This may consist of (*a*) photographs or drawings of vines and vineyards, illustrating every stage of growth, cultivation, training, and harvesting; (*b*) of photographs or drawings of tools and appliances used in grafting, budding, planting, cultivating, training, and harvesting; (*c*) of photographs or drawings of crushing mills, wine presses, vats, vaults, cellars, distilling machinery (and models of same when obtainable), tools, fixtures, and appliances used in and about the cellars and vaults; also tools and appliances used in curing and packing raisins, with explanations of uses, &c.

2d. Illustrations by sample of the finished products of the grape, in wine, brandy, raisins, or other preparation as a food product. In this phase it is desirable to have each variety of the grape and its product illustrated by itself as an individual, combinations and blending being left to private parties.

3d. Statistics relating to products per acre in localities, showing difference in varieties of grapes: cost of planting, cultivating, and harvesting; cost of buildings, tresses, vats, machinery, tools, etc., etc. This should be so arranged as to show approximately the possible profit in the business, and afford a guide to those seeking business or opportunity to invest capital.

4th. Illustrations of diseases of the vine and insect pests. This may be by photographs or drawings, accompanied with descriptions of courses pursued and methods employed in fighting them, and statistics as to results.

Lastly, statistics should show quantity of wines, &c., produced from year to year since 1876 to date; the average in pounds of grapes, fresh or dried as raisins, &c.

Is Canada, we ask, to be left behind in this matter by her enterprising neighbor, and to have no exhibit at this great Exposition?

THE WORDEN GRAPE receives further commendation in *The Country Gentleman* from Mr. S. D. Willard. He says of it: "Another year's experience has confirmed me in the opinion long entertained that this is the best dark-colored, early ripening grape that has been introduced, and when more universally known, I believe it will supersede the Concord in every locality where the latter has been planted."

Spring Wagon for Carting Apples.—Mr. Brodie, of Montreal, in the last report of the M. H. Soc., condemns the very common practice of carrying apples in lumber wagons without springs:—"Always use a spring wagon for carting them. I know a farmer who made a loss of $20 on a load of Duchess of Oldenberg apples; he had sold them a couple of days previously for $4 per barrel and brought them to the city in an old lumber wagon without springs, the barrels standing on end. When they were opened, what a sight! all bruised and sunk about a foot down in the barrel. Of course the purchaser would not accept them, so he had to peddle them round for what they would bring."

Pruning out the Blackberry Canes.—Among other work that may engage the attention of the practical gardener at this season is the cutting out of the dead canes in the black berry and raspberry plantation. Some advocate leaving them until spring for the use they would be in gathering snow for winter protection, but if this is all the precaution taken, we judge the purpose would be poorly served. The advantage is in the ease with which the work can be done after the ground is frozen, and the saving of more valuable time in the spring. We have tried various tools for this

Fig. 83.

purpose. An instrument like fig. 83 is very useful, being a hook made of steel flattened out and made sharp, the whole being about 20 inches in length. We have also found ordinary tree pruners with handles about the same length very useful; with these one man first cuts off the dead bushes and another removes them to the brush boat with a long-handled fork.

Fall Pruning Grape Vines.—The advantage of this season of the year over the spring for pruning the vine has often been emphasized in these columns. The experience of a writer in Vick's Magazine well agrees with our own, and will be seasonable just now. He says:—"I advise the practice of fall pruning for grape vines over that of spring pruning, I do this because in the fall the ground is hard and firm, and as grape vines are often a part of the garden fruitage it is more desirable to stand upon a dry, firm soil while pruning than upon a wet one, as is often the case in spring. Then, too, the weather is more propitious. In the spring the weather is frequently so unfavorable, even until quite late, that out door work is almost always delayed. The cutting winds of March are far more severe than the temperature of November, and one not accustomed to great exposure frequently dreads to perform this labor at a season as early as necessary. The weather, however, would furnish but a shallow reason, were it the only one, but it is not. My vines have done better the next season after fall pruning, and have borne more grapes than when pruned in the spring, and this fact is worth more than a thousand theories and opinions. I am not aware that any exact experiments have been made to test this point; in my own practice the difference is sufficiently marked to warrant my adhesion to fall pruning, but if the product of the vines is no greater the advantages are still with fall pruning.

The Elberta Peach is a new and very promising variety, that is again

inspiring peach growers with hopefulness. It is said to succeed both at the north and at the south, and to bring nearly twice as much in New York city as ordinary varieties. It is a yellow peach ripening just before Crawford's Late; it is large, productive and an excellent shipper. The trees are also hardy and begin bearing when quite young.

The Lucretia Dewberry receives very high commendation from Mr. A. J. Caywood, of Ulster Co., N.Y. He says they ripen a week ahead of the Early Harvest blackberry, and bring him as high as 24c. per qt., retail. It serves to keep up steady picking, beginning with strawberries, then red raspberries, Lucretia dewberries, blackberries. It is a great bearer with him, and the berries exceed the size of his Kittatinnies, and are sweeter. They are also firmer than blackberries. With regard to planting and training, he says in *Popular Gardening*:—"I plant them as I do red raspberries, four feet apart each way, cultivate both ways until the fore part of June, when the renewals get too long to do so. We then direct the renewals of each row along the bottoms of the hills, and cultivate the other way as long as required, and one man has done the directing of our patch in a day. The old canes are taken from the stakes any time after the fruit is off, before tying up in the spring. The renewals are left on the ground all winter, which is sufficient protection here, but if it is necessary to protect them in colder regions, their prostrate position facilitates the work. In the spring, one draws the entire hill from under the other hills in the row, and holds them to the stake, while a boy ties them tightly; this can be done as rapidly as tying red raspberries. I think my patch was the first managed on this plan; we have tried the winrow system, but like staking the plants better."

Protecting Blackberry Bushes.—A writer in the *Prairie Farmer* writes as follows on this subject, which may just now be interesting to some of our readers:—

"I have never found any variety more hardy than Snyder, and when the thermometer gets down 20 or 30 below a few times, your blackberries are so feeble that they don't give you a half crop of fruit. It takes but five minutes to cover a bush that will bear a peck of fruit. Covering should be done after the falling of the leaf.

"In covering, use a fork, either a potato or manure-fork; remove a forkful of earth on two sides of the cane at the base; place your foot at the base of the cane, with the fork on the top, and bend it with the row; hold it in place, and put on a few forkfuls of earth, and proceed with the next hill, laying it on the last, putting on just earth enough to hold it down, till the whole row is down. Now, go over the row, and add earth so as to cover the main canes, but it is not necessary to cover all the branches; the first holding down is usually sufficient. The more you put on, the more of a job you will have to remove the earth from and under the row in spring."

Black Walnut Tree Growing.—A correspondent in London makes some inquiries upon this subject. Others beside him may be interested in the following remarks in the *Iowa Homestead*:—

"Mr. George Van Houten, who is regarded as good authority in such matters, says if the husks are removed, it is safe to count that about 1,000 nuts will make a bushel. With the husks on, from 500 to 600 per bushel would be a reasonable estimate. Some years many of the nuts are abortive,

while other years nearly all will grow. A fair estimate of their germinating qualities can be made by cracking a few, as nearly all plump, natural-appearing kernels will grow under favorable circumstances. It is best to plant rather more nuts than trees are wanted for, like most nut bearing trees, the walnut does not transplant easily. After being gathered, the seed should not be allowed to dry; if shipped a distance, the nuts will keep from drying out with damp moss about them. In the fall they can be planted at once, and covered three or four inches deep in well-prepared ground. If planted in the spring, over winter spread the nuts two or three layers deep, mixed with earth or leaves, and covered lightly; if the ground is moist, at least part of the rains should be kept off, planting as soon as the frost is out of the ground. Good cultivation should be given for the first few years, after which but little further care."

Fruit Inspection.—This subject, referred to on page 211, was carefully gone into by the fruit growers of Nova Scotia two years ago, and it was argued by one member that inspectors should be appointed in every ward throughout the fruit-growing sections of the country by the municipal councils; and, further, that the Local Legislature be petitioned to enact a law prohibiting the shipment of apples to either local or foreign markets until they have received the inspector's brand. After a full discussion it was referred to a committee, whose report was that the object sought would be best attained by amending the law in such a way as to compel each grower to stencil upon each barrel his own name, the variety and grade of the fruit.

Red Russet.—The *Garden and Forest* speaks of the Red Russet as gaining in favor for the vigor and productiveness of the tree, and the beauty and long-keeping quality of the fruit. The tree is as sturdy as the Baldwin, and the fruit keeps as long as the Roxbury Russet.

This does not quite accord with our experience with this apple. For beauty of fruit and excellence of quality, certainly, it stands very high, and deserves the highest commendation, but at Maplehurst the tree is not as vigorous as the Baldwin, and in keeping qualities it is not equal to the Roxbury Russet. The latter keeps till June, and the former only until April.

A Remedy for Parasites of Plants.

We now have some foreign journals among our exchanges, both English and French, and among them the *Bulletin d'Arboriculture, de Floriculture et de Culture Potagère*, edited by four gentlemen who are professors in the State School of Horticulture, Ghent, Belgium.

We translate an extract which may prove useful to many of our readers:—

"The use of sulphate of iron has been recommended very often for contending with the enemils which attack certain plants. There does not exist a universal panacea, but it is proved that the action of that substance is undeniable in certain cases, providing that the application has been properly made.

The *Revue Horticole*, in asserting the excellency of that remedy in its issue of July 16th, 1888, enumerates a series of experiments showing that sulphate of iron can be usefully employed for destroying mosses; the peronospora of the potato, for fighting cankers of trees, spots of pears, gum, brown-rust, dodder the grubs on rose bushes, and the anthracnose of vines.

For small plants the salt should be dissolved in the proportion of one kilogramme to one hectolitre of water, and the solution sprayed in proportion of one-tenth of a litre to each plant; for rose-bushes the quantity of sulphate should be doubled, and the sprinkling repeated two or three times."

QUESTION DRAWER.

Grape Must.

In connection with question No. 15, referred to also on p. 140, the following from *The Wine and Fruit Grower* will be of interest to grape-growers :—

"Dr. F. Springmuhl's first work for the concentration of grape must, situated about one mile north of Clairville, Sonoma county, is nearly completed.

"The huge machinery is adapted to concentrate more than 200,000 pounds of grapes in ten hours, and more than 10,000,000 pounds will be exported this year.

"A new town has been laid out, and a railway station, called Springmuhl, has just been erected.

"The stockholders of the American Concentrated Must Company have decided to largely extend the new industry, and to concentrate extract of tanbark and similar products during the other part of the year.

"Dr. De Barth Shorb, of Los Angeles, and Dr. Springmuhl have bought a tract of land around Springmuhl station, and a number of houses and cottages will be built for the employés of the firm.

"Baron von Schilling intends to build a splendid hotel in the valley near the Russian River.

"The whole land bought by Drs. Shorb and Springmuhl, except the part reserved for the town, will be planted with vines, and will be cultivated by employés of the Must Company."—*Merchant.*

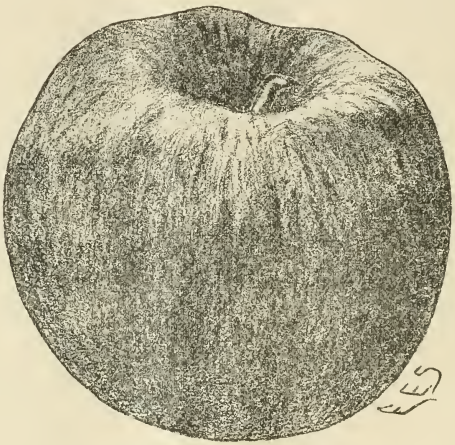

Fig. 84.—Keane's Seedling Apple.

Wire Field-Mice Protector.

114. We send you, per sample post, a sample of our Woven Wire Field-Mice Protector for trees. We were showing it to Mr. Binn, of this city; he was very much pleased with it, and suggested our sending you a sample. You will see they form a perfect protection, and are the cheapest thing that could be used.—B. Greening & Co., *Hamilton.*

We are inclined to think favorably of this woven wire for the purpose mentioned, providing it can be had at

low enough a price. So many fine young trees are destroyed by field-mice every winter, when the snow is deep, that we welcome any device which will protect and save this loss. Our own custom is to bank up all young trees throughout our orchards with fine earth, first, of course, clearing away all rubbish, grass, and suckers from the trees. This we do immediately after the apple harvest is over, setting the gang of pickers at the job with good sharp spades. It can be done quickly, and if properly done, is quite effectual.

Keane's Seedling Apple.

115. You will find come to you two apples mailed with this. They are seedlings. The tree is now, perhaps, near twenty, or about twenty years old. It has borne a crop of such apples for about nine years—*every year*. Last year was the *off year*, and it bore about two bushels, one-third, or I might say *twice* as large as these I send you. This year it bore twice as many as it should have been permitted to carry—the branch s bending to the ground all round, which has greatly lessened the size of the apple. I send it to you so you may judge of the quality, which I think is first-class. A few words in the December No. of the HORTICULTURIST will be enough. The tree grows about four miles north of Orillia town, on the farm of Mr. James Keane, being lot No. 3 in the 8th concession of the township of North Orillia, county of Simcoe. It is a chance seedling.—T. WILLIAMS, *Orillia, Ont., Oct. 17th.*

At first sight this apple has much the general appearance of Gravenstein, but is below average size, and strikes us favorably as a commendable autumn dessert apple. It is below medium size, of even form, roundish oblate, with closed calyx in a corrugated basin. The skin is shaded, splashed and striped with bright crimson, which is deepest on the sunny side. The flesh is white, crisp, fine grained, juicy, and of a rich, aromatic flavor. Since writing the above we have had a sketch of this apple prepared especially for this journal by Miss Evy Smith, of St. Catharines, and which we now present in this number. It gives a very truthful representation of the apple.

Quince Culture.

116. WILL you tell me all about the soil, climate, culture and profits of quinces? Which variety pays best?—THEOPHILUS TYEHURST.

QUINCES are easily grown, and when planted upon suitable soil and properly cultivated are fairly profitable. Like most other fruits, however, the market price of late has considerably declined. Some years ago the writer received an average price of 75c. to $1.00 per twelve qt. basket, but now-a-days the usual price is from 40 to 60c. per basket. Yet even these prices pay the grower.

The soil best suited for the quince is a rich, mellow, deep soil, well enriched. A good deal of difference of opinion exists regarding the best mode of cultivation, some advising ploughing and working up the soil, and others not Certainly deep ploughing would be injurious, as the roots grow very near the surface; but having tried the effect of growing quince trees in grass, with heavy mulching of coal ashes, straw and manure, and also of cultivation with manure and wood ashes, we must give the result as favorable to the latter, both as regards size and quality of the fruit.

Our soil at Maplehurst is a sandy loam, inclining to moist, but well drained; perhaps in other soil the mulching might have the best results. Mr. Chas. Jones, of Newark, N. J., writes in the *Rural New Yorker* that he leaves the ground undisturbed, except to keep down weeds, and mulches heavily with salt hay in early summer, and gives a dressing of barnyard manure in the autumn. He states that he gathers an average of over 400 quinces, but he does not say anything to indicate their size.

For field cultivation two ways, 12 ft. would be the proper distance, but if the mulching system is to be adopted they may be planted 8 or 10 ft. apart.

The usual mode of pruning is simply to thin out crowded or decaying branches, but we would advise a yearly heading back of one half the new growth in the spring. Mr. Jones leaves only four or five buds on each thrifty young shoot, and says that as a result "the entire outer surface of the tree is literally covered with fruit of good size and quality."

Regarding climate, we can only speak for the country south of the G. W.R. division of the G.T.R. We shall be glad to hear from members of our Association respecting their success with the quince farther north.

The variety of the quince which has given us the best satisfaction is the Orange. The Angus is too small; the Champion is larger, and more regular in form, but rather late, while the Orange colors up early in the autumn and sells when the price is best.

OPEN LETTERS.

Proposed Bill to Regulate Fruit Packages.

SIR,—I did not intend you to publish that "bill" of mine, or I should have taken more care to have been exact. My idea was that you would take the subject up and have it discussed, but as the deed is done I must make the best of it, even though some think the proposition worse than it is.

I have to ask space to make these explanations, and also to answer an objection or two. In mentioning quantities, my object was to fill out the sentence so you could readily see my intention. To me it makes no difference what the size of the package is, so long as *it is uniform*. I had no idea of changing the size. The proposition grew out of this: Passing a fruit store, I bought some plums, but when they were delivered the baskets did not seem as large as those I bought. Upon investigation I found the dealer had one sized basket for exhibition and another for delivery. That was a downright fraud and should not be allowed.

As to packing two kinds of apples in one barrel, there is no objection so long as the fact is made apparent and quantities are stated.

Your objection to having both a "standard" and quantities stated would be good if every person knew the standard. How many do you think know the size of a standard quart measure, or even that there is such a thing?

I would not object to any sized package were the quantity it contained legibly stamped on it.

The objection to natural decay is all right so far as it applies to the goods after they are shipped, as natural laws and man's perverseness are factors too strong for any parliament. Could a packer prove his fruit in good condition when it was shipped, the effects of the proposition would cease. The difficulty is to reach the packer over the middleman, who ought not to be responsible for the packer's frauds.—G. H. FAWCETT.—*Ottawa, 15th Oct., 1888.*

Grapes Tested in Essex County.

In looking over the Annual Report, which came to hand extremely late (why cannot it be brought out earlier—say, at least, February or March), among much that was interesting, I noticed one defect. It lacked that which in past years has given much interest to its pages, I mean the report of the "Committee on New Fruits." Our present President, as Chairman of that committee, in previous years gave us admirable sketches of the novelties in pomology, which did much to guide many in their purchase of new fruits for trial. It is to be wished that the present gap may not mean a permanent hiatus in this line of the Association's tasks. Meanwhile, may I forward a short communication to assist in supplying in part the lack. After a turn amid the vineyards and gardens of South Essex, a few words about some of the new grapes may be of some interest to your readers.

First, as to the Blacks:—

August Giant—Is early, very large, flattish round berry, small bunch, excellent flavor, poor bearer.

Bacchus—Is a true child of its parent, Clinton, rather smaller in berry, perhaps a shade better in quality, good only for wine.

Marion—Is first cousin, if not full brother to Bacchus; needs a long season to bring out its excellencies, extremely acid, otherwise a wine grape only.

Cottage—Very early (as early as Morris or Champion), hardy, healthy, good grower and bearer; cluster and berries average rather smaller than its parent, the Concord; the berries

extremely foxy, very solid, little juice, nearly all a gelatinous pulp—not desirable here.

Early Victor—The best in quality of the early, hardy blacks, ripens with Worden or a little earlier, small in bunch, medium in berry, productive, good grower, juicy, good flavor, free from fox, inclined to shrivel and lose flavor if left on long after ripening.

Hosford's Seedling—Good grower, hardy, pretty free of fox, early as Worden, good cluster, enormous berry (larger than Wilder), flavor better than Concord, its supposed parent.

Among the Early Reds, the

Brighton retains its general pre-eminence for exquisite beauty and fine flavor, large in cluster and berry, good grower and bearer, perfectly free from foxiness, tender and juicy, with little or no pulp; it is difficult to surpass; its only fault is a tendency to mildew in unfavorable seasons, and loss of quality when left to hang too long on the vine.

Amber Queen—Excellent in quality, but vine not very healthy and bearing qualities defective.

Jefferson—A good grower and fine bearer, hardy here; as juicy and free of pulp as Brighton and Iona; close large cluster, berry large, varying from pink to a prettily veined red, semi-transparent; thin skin and delicious pure flavor, not as high, vinous and spicy as Iona, but second only to it; late, however, in maturing; ripens between Isabella and Catawba, or perhaps as late as the latter; useless, therefore, in Canada outside of Essex, Kent and the Niagara district, unless in exceptional seasons like that of 1887. Inclined to overbear; needs close pruning. Throughout Lake Erie counties would probably ripen in favorable exposures, on south side of house or brick wall; worth taking a little trouble to get.

As to the Whites, which have been the rage of late:

Elvira is very hardy, vigorous and productive; large, compact, close, handsome cluster; late as Catawba; quality abominable; good for white wine, nothing more.

Empire State—Fine grower, hardy, good bearer, though not as productive as Niagara; cluster good, though not largest; berry large medium, very sweet, a little fox, not much pulp; but the cluster, at least when fully ripe, is extremely fragile and berries shell off on the slightest provocation.

Etta—Decided improvement on its mother, Elvira; hardy, productive, cluster not quite as large or close as Elvira, but berry larger, more juicy and really fine flavored, subacid; ripens little if any before Catawba.

Jessica—Good grower, hardy, healthy, early as Delaware; bunch medium, very loose, very small, free of fox, juicy, sweet, not high flavored.

Niagara—Great grower, hardy, heavy bearer of large, handsome bunches; berry large, juicy, little pulp, very foxy—the "Concord" of the whites.

Pocklington—Very hardy, fine grower; moderate bearer of smaller bunches than the Niagara; berry larger, yellower, better quality than its rival.

Prentiss—Succeeds in South Essex; hardy, fair grower; mildews some in unfavorable seasons, but good bearer of excellent clusters, quite free of fox, juicy, good flavor.

Naomi—Like former, mildews some; strong grower, sufficiently hardy here; small bearer of moderate cluster; berry medium, oval; in texture and flavor resembling the foreign grape, of course free of fox.

Duchess—Good grower; hardy here, although farther north the better of laying down; bears good crops of moderate sized, properly compact bunches, green tinged with a little golden tint and brown; berries medium, inclined to oval; adhering to peduncle as if pinned; texture and flavor exceedingly like the white Malaga (Spanish) grape, but not quite so hardy and more juicy; splendid shipper and keeper, and admirably pure and high flavored: ripens between Concord and Isabella; altogether the finest white grape for the private grower.

In conclusion I would add that among the blacks, Early Victor, Wilder and Roger's 43 and 44; in reds, Delaware, Brighton, Agawam, Lindley, Iona, Jefferson and Catawba; and among whites, Prentiss, Etta, and especially Duchess, are well worthy the attention of amateurs in Southern Ontario. Should be glad to learn the experience and opinion of other growers as to these grapes.—AMPELOGRAPH. *—Kingsville.*

Fruit Tested in Muskoka.

The Russian Apple received from the Association in 1885, has stood two winters well without losing an inch of wood; the Vladimir Cherry also, but I protected it the first year.

I had a very good crop of grapes this season, about one third ripe and picked when the frost of October 3rd and 4th compelled me to make the rest into wine. The first to ripen were the Moore's Early, Jessica (a delicious, sweet grape,) Concord, Worden, Lindley (the most hardy, vigorous grower and best bearer I have,) Agawam (later and more delicate); Niagara, Lady, Martha were not ripe enough to tell their flavor. I think I allowed too many bunches to grow on the Niagara.—F. W. COATE. *—Cape Elizabeth, Rosseau, October 15th, 1888.*

Winnipeg.

SIR,—I feel grieved to see the quality of apples from Ontario coming here; they are mere culls, with usually a few good apples on the top of the barrel. The market is flooded with such and the general impression prevails that we have no better. Prices are down low and shippers are losing heavily. There is a prospect of prices being lower still, but no chance that I can see of improvement. If British prices are anything near the mark, it would be

better to send all there that is really good, as freights there are, in any case, much in favor of the shipper compared with freights here. It is easily seen, also, that there is a great lack of despatch in the C.P.R. in forwarding freight here—and as for carriage, the fruit has the appearance of having had a more than usually rough handling in passage here. I never saw such imperfect, badly bruised fruit. We certainly cannot congratulate the C.P.R. on anything they are doing for Ontario fruit growers.

California grapes, which are very fine, will practically shut ours out of this market this season, I fear.—ALEX. MCD. ALLAN.—*Winnipeg, Oct. 22nd, 1888.*

G.T.R. Denies Favoritism.

SIR,—Yours of 26th received to day. There has been no such rate as 48 cents per barrel from any point in Ontario to Liverpool; $1.00 is the best figure that can be obtained, and even this is only good for present shipments.—ROBT. QUINN, District General Freight Agent.—*Hamilton, 29th Oct., 1888.*

OUR FRUIT MARKETS.

Shipping Direct to London.

Regarding shipments direct to this port, I will not agree that it is cheaper. The freight may look lower, but the expenses of dock dues, carting, &c., will cost you from 9d. to 1s. 1d. per barrel, which, by way of Liverpool, is inclusive, and above all, the fruit gets much more knocked about than coming via Liverpool.

You may commence making shipments of Russetts and Spies about the middle of November. With Spies you must be assured that they are really *sound*, hard fruit, otherwise the condition at the time of arrival is bad. Good choice Russetts ought to do well.—J. B. THOMAS.—*London, 27th Oct., 1888.*

Covent Garden, London, England.

Our market has been very good for fair fruit, Greenings making from 12s. to 15s.; Baldwins, 12s. 6d. to 17s.; Fancies from 17s. to 25s., but as regards Canadian fruit the arrivals appear to be worse this season than in the past; the packing is very faulty, as well as the want of discrimination as to the class of fruit that will stand the voyage.

Your American contemporaries have taken the lesson from past years, and with the result that they take care to pack and ship the proper fruit, with the result that is knocking Canadian fruit entirely out. We know, of course, that later on when you commence to ship the harder fruit, better results will follow, but it is as well to commence well and finish better, than to commence bad and finish better.—J. B. THOMAS.—*London, 20th Oct., 1888.*

Liverpool.

MESSRS. WILLIAMS, THOMAS & CO., writes under date of 8th November as follows:—

Sir,—Supplies of Apples during the week have been plentiful, but more moderate, consequently prices have improved, we quote: Kings, 16s. 3p. to 18s. 6p.; Baldwins, 12s. to 14s.; Greenings, 12s. 6p. to 15s. 9p.; Russets, 14s, 3p. to 15s. 6p.; 20 Ozs. and Ribston Pippins, 14s to 17s. 3p.; Various, 11s. to 16s. 9p. Good green fruit is scarce and wanted.

Advices from New York are to effect that shipments from that State will be light for some time, so can recommend your shipping.

REVIEW.

Transactions Iowa Horticultural Society, 1887.—Geo. Van Houten, Lenox, Iowa, Secretary. A volume of 437 pages, bound in cloth, and containing many interesting papers, from which we hope to find room for some selections.

Proceedings of the Fourth Annual Convention of the Society of American Florists, held at New York City, August 21st, 22nd and 23rd, 1888. W. J. STEWART, Boston, Mass., Secretary.

Illustrated and Descriptive Catalogue, Simmers' Flowering Bulbs.—J. A. SIMMERS, 147 King St. East, Toronto.

Lovett's Illustrated Catalogue of Trees and Plants.—J. T. LOVETT, Little Silver, N. J.

The American Agriculturist, 751 Broadway, N. Y. The American aloes, our native palms, and the glacier pink, a beautiful flower of the higher Alpine regions, are described and illustrated in the November number.

American Grape Vines—Semi-Annual Price List, Fall, 1888.—BUSH & SON & MEISSNER, Bushberg, Jefferson County, Mo.

Wholesale Trade List of the Cayuga Lake Nurseries, also of Foreign Fruit Tree Stock, &c.—H. S. ANDERSON, Union Springs, N. Y.

Circular to Nurserymen, concerning next Meeting of the American Association of Nurserymen at Chicago in June, 1889, at which a nurserymen's institute is to be held.—CHAS. GREEN, Secretary, Rochester, N. Y.

Catalogue D'Ognons a Fleurs, &c.—H. SCHMITZ, 20 Rue d Brabant Gand, Belgium.

Wholesale Catalogue American Grape Vines, Small Fruit Plants, &c.—GEO S. JOSSELYN, Fredonia, N. Y.

Rust (Puccinia graminis)—Bulletin 36, by PROF. J. HOYES PANTON, M. A.; issued by Ont. Dept. of Agriculture.

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